

Bunloinn Wind Farm

Environmental Impact Assessment Scoping Report

July 2021

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1 INTRODUCTION

Introduction

- 1.1 Energiekontor UK Ltd ('the Applicant') is proposing to develop a new proposed onshore wind energy development to be known as Bunloinn Wind Farm, consisting of up to 18 wind turbines, including associated development such as crane pads, access tracks, a substation and temporary construction compound ('the proposed development').
- 1.2 The proposed development lies within the administrative boundary of The Highland Council (THC) and is located approximately 14.5km north-west of Invergarry and 13km south-west of the hamlet of Dalchreichart¹ ('the Site').
- 1.3 The location of the proposed development is shown in Figure 1.1.

Purpose and Structure of the Scoping Report

- 1.4 The purpose of this Scoping Report is to formally request a Scoping Opinion from the Scottish Ministers via the Energy and Consents Unit (ECU), in accordance with Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ("the EIA Regulations"). It is anticipated that the proposed development will have a generation capacity in excess of 50MW.
- 1.5 Scoping is used to help identify where there are potential interactions between a project and the environment. It allows an Applicant to be clear which of these are considered to be likely significant effects, upon which an Environmental Impact Assessment (EIA) should focus.
- 1.6 This Scoping Report provides an outline of relevant environmental receptors that may be affected by the proposed development, describes any mitigation available or foreseen at this stage and describes the information that it is envisaged will be submitted as part of a future EIA Report. This approach enables consultees to comment upon the appropriateness of the baseline as it is known at this stage, the decision to scope in or out of further assessment, and the methodology used both to do this and the methodology which would be used in any further assessment.
- 1.7 Comments on the scope of the proposed EIA are invited. Should consultees be in a position to identify or provide additional relevant information concerning the existing environment or any specific local issues, this would be welcomed.
- 1.8 By virtue of the nature, size and location of the proposed development, it is anticipated that significant effects upon the receiving environment, particularly if unmitigated, are likely. As such, the Applicant is committed to providing an EIA in line with the guidance outlined within Section 2.

¹ Distances are measured from the centre of the Site.

1.9 Therefore, this report comprises the following sections:

- Section 1: Introduction;
- Section 2: EIA Regulatory Framework;
- Section 3: The Site and its Context;
- Section 4: The Proposed development;
- Section 5: Likely Significant Environment Effects;
- Section 6 – 15: Subject-specific chapters; and
- Section 16 Content and Structure of the Proposed EIA Report

Introduction to the Proposed development

- 1.10 The proposed development is set out within Section 4 and details the project design and known parameters at this stage. Centred on OS grid reference 217564,807993, the proposed development comprises 18 turbines with varying tip heights of up to 200m and 230m, on a site of 1836.13ha (excluding access, see further sections), and associated infrastructure.
- 1.11 The proposed development at this stage has been subject to a detailed acquisition and initial design and constraints analysis process. The work carried out at this stage includes ecological and ornithological baseline collection which commenced in 2019, and landscape and visual considerations as well as a thorough analysis of wind yields and associated layout options which avoid major environmental and technical constraints. The proposed development reflects the exploratory work undertaken to date and represents the maximum extent of viable development within the site.
- 1.12 The site is bound to the south-east by the operational Beinneun Wind Farm and its Extension (25 turbines, 133.5m to tip and 7 turbines, 136m to tip respectively). The operational Millennium Wind Farm (26 turbines, 115m to tip) and the consented Millennium South Wind Farm (10 turbines, 132m to tip) also lie to the south-east of the proposed development. Additional surrounding wind farms include the operational Bhlariadh Wind Farm (32 turbines at 135m to tip) and Corrimony Wind Farm (5 turbines, 100m to tip) which lie to the north-east of the Site and the operational Stronelairg Wind farm (43 turbines, 135m to tip) to the east.
- 1.13 Energiekontor have sought specialist advice up to this stage from competent experts and will seek to do so throughout the EIA process. The environmental evidence collected to date, as provided within the contents of this report and the proposed methodologies detailed within sections 6, 8 and 9, have been provided by the following companies:
- Landscape and Visual: LUC (Land Use Consultants Ltd)
 - Ecology and Ornithology: Wildlife Consulting Ltd
- 1.14 Other disciplines have been prepared in-house using the planning and EIA experience of our staff.

Energiekontor UK Ltd

- 1.15 Energiekontor UK Ltd is a wind energy development company with offices in Leeds, Edinburgh, and Glasgow. The company was formed in 1999 and develops onshore wind farms throughout the United Kingdom. The company has built seven wind farms in the UK with many more in the development process.
- 1.16 Energiekontor UK Ltd is part of the Energiekontor Group. The parent company, Energiekontor AG, was established in 1990 in Bremerhaven in Northern Germany. It has since grown to become one of the leading wind energy companies in Europe, having built more than 100 wind farms across the continent.

2 EIA REGULATORY FRAMEWORK

What is EIA?

- 2.1 EIA is a statutory process that is governed by UK and European law. It aims to improve the environmental design of a development proposal and provides decision-makers with sufficient information about the environmental impacts of a proposal.
- 2.2 An Environmental Impact Assessment Report (EIA Report), prepared during the EIA process, provides environmental information about a proposed development, including a description of the proposal, its predicted environmental effects and the measures proposed to ameliorate any adverse effects.

The EIA Process

- 2.3 The EIA process usually follows the following stages:
 - Screening may be the first stage of the EIA process where the relevant authorities need to decide whether EIA is required.
 - Once it has been agreed that EIA is required, scoping is undertaken to define what should be assessed as part of the EIA and reported in the EIA Report.
 - With the scope set, relevant information on the environmental baseline conditions is collected. This information is then used initially to understand the dynamics of the likely environmental effects and to inform the design of the project to minimise the potential for significant adverse effects.
 - The formal assessment process is then undertaken on the design parameters to define the significant effects of the project.
 - Any significant adverse effects that are identified during the formal assessment process are then reviewed against the design to consider whether alterations could be made to minimise the effect. Should this occur, the formal assessment process is reiterated.
 - Where significant adverse effects cannot be minimised through alterations to the design itself, mitigation measures are considered. Monitoring may also be considered to measure the actual significance of the effect during and post-construction to allow management of mitigation where appropriate.
- 2.4 Once the EIA is completed, the EIA Report is submitted to the Competent Authority for consideration along with the planning/consent application. Therefore, the aim is to assist the Competent Authority (in this case the ECU) to form an opinion as to the likely environmental effects of the proposed development. The Scoping process therefore is focused upon assessing the likely significant effects and proposing mitigation measures to reduce the residual effects upon the environment where applicable. The Scoping process should also identify those environmental issues which do not require further consideration.

General Approach to Scoping

- 2.5 Scoping is an exercise conducted at an early stage in the EIA process and is designed to ensure that the environmental studies provide all the relevant information on the impacts of the project, focusing on the significant effects.
- 2.6 The findings of this exercise define the 'scope' of the environmental information to be provided and the terms of reference for the environmental studies to be undertaken. The scope of the work however remains flexible and can be amended should new issues or information arise while undertaking the project.
- 2.7 The project team benefits from significant experience and technical expertise in environmental assessment and development of such projects and will ensure that the EIA will be carried out in accordance with the EIA regulations. The potential environmental impacts during construction, operation and decommissioning will be identified and assessed in the EIA Report, based upon the recommendations of the technical EIA team, consultation with statutory consultees, other interested parties and local communities. Topic assessments will be undertaken using best practice methodology, following industry guidelines whenever appropriate and carried out by specialists with relevant professional experience.
- 2.8 Schedule 4 of the EIA Regulations states the information to be included within the EIA. Each assessment will consider these criteria and assess them whenever appropriate to the proposed development. This also highlights that the emphasis of the EIA process should be on assessing likely significant effects, rather than every environmental effect associated with a development.
- 2.9 Impartial professional consultants will assess the likely significant environmental effects identified. These specialist assessments will generally incorporate:
- Site visits;
 - Collection of baseline data regarding the site and surroundings;
 - Identification of the likely significant effects of the proposed development; and
 - Recommendations on how these effects could be avoided or reduced.
- 2.10 For each topic the proposed methodology to be used within technical topics is set out within Sections 6 to 15 of this Scoping Report. Cumulative effects will be assessed within each EIA Report chapter as appropriate, at a scale appropriate to that subject and in line with best practice guidance currently available. It is essential that the methodology used for assessing the significance of environmental effects is set out clearly and transparently within an EIA Report and is justifiable.
- 2.11 Significance is generally determined through a combination of the sensitivity of a receptor or resource to an effect and the magnitude of the change resulting from the proposed development, however where this differs the full methodology is explained within the relevant section as appropriate.
- 2.12 Significant effects are more likely to be predicted where important resources, or numerous or sensitive receptors, could be subject to impacts of considerable magnitude. Effects are

unlikely to be significant where low value or non-sensitive resources, or a small number of receptors, are subject to minor impacts. The assessment of significance of an environmental effect resulting from the proposed development will have regard to the following:

- Sensitivity, importance or value of the resource or receptor;
- Extent and magnitude of the effect;
- Duration of the effect;
- Nature of the effect;
- Performance against environmental quality standards; and
- Compatibility with environmental policies.

2.13 The methods for predicting the nature and magnitude of any potential impacts vary according to the subject area. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. However, it is not always possible to ascribe values to environmental assessments and thus qualitative assessments are sometimes used. Such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic area will be described within the individual chapters of the EIA Report and will follow best practice guidelines where applicable.

2.14 In addition to those items explained above, the EIA Report will either include discussion of, or scope out via sections 6 to 14 of this Scoping Report, the following items:

- A description of the development, including description of the location, its physical characteristics, land-use requirements during construction and operation, a description of characteristics of the operational phase, and an estimate of the types and quantities of expected residues and emissions;
- A description of reasonable alternatives, including development design, size, scale, and a justification of the project choices made;
- A description of the baseline environmental situation and an outline of the likely evolution thereof without implementation of the proposed development;
- An assessment of the environmental baseline for each environmental topic scoped into the EIA, with reference to those items specified within Schedule 4 (5) of the EIA Regulations;
- A description of mitigation and monitoring measures (where applicable); and
- A description of any expected adverse impacts in relation to the vulnerability of the proposed development to risks of major accidents and/or disasters which are relevant to the project.

2.15 Consultation and Stakeholders

2.16 The Applicant recognises the importance of consultation and community involvement throughout the project development process in line with 'PAN 3/2010 Community Engagement'. PAN 1/2017: Environmental Impact Assessment Regulations also reinforces the importance of public involvement in the Scoping process and makes it clear that the

EIA process is intended to ensure that consultation bodies and the public have opportunity to express their opinion on both the proposed development and the EIA Report.

- 2.17 The Applicant will hold informal pre-Scoping discussions with The Scottish Government Energy Consents Unit and THC to introduce the proposal and gain initial feedback. This feedback along with the Scoping Opinion being sought shall be taken into account as the proposed development is progressed and will form the basis of the EIA.
- 2.18 A full consultation list containing consultees we aim to discuss the proposed scope of work with throughout the EIA and application process is contained within Appendix 3.

3 THE SITE AND ITS CONTEXT

The Site and Surroundings

- 3.1 The Site is located approximately 14.5km north-west of Invergarry and 13km south-west of the hamlet of Dalchreichart (see Figure 1.1) and covers an area of rolling open moorland with occasional rocky outcrops and areas of commercial forestry.
- 3.2 The Site is characterised by an undulating landform and is enclosed by higher topography to the south of Loch Cluanie and north of Loch Loyne. The summit of the Corbett, Beinn Loinne, is contained within the Site marking the highest point (at 775m Above Ordnance Datum (AOD)) while the hill summits of Meall Odhar (462m AOD), Meall Coire na Creadha (561m AOD) and Creag na Nathrach (514m AOD) also lie within the Site boundary.
- 3.3 The surrounding area is sparsely populated with the nearest settlements being Invergarry Inchlaggan (approximately 6km from the Site²) and Dalchreichart. The A87 trunk road lies immediately to the north of the Site and then travels south, partly within the Site boundary.
- 3.4 At the time of writing, other access options as well as the port of entry are still being explored. However, for the purposes of Scoping, turbine loads will arrive at Kyle of Lochalsh Harbour by ship and would be transported to the Site via the main A87 trunk road, travelling south-east. The turbines would then turn south at the A87/ A887 junction to stay on the A87 and finally turn west into the Site, utilising existing forestry tracks.
- 3.5 While there are no environmental designations within the boundary of the Site, the following designations lie within 10km of the Site boundary:
 - Glen Affric National Nature Reserve (NNR);
 - West Inverness-shire Lochs Site of Special Scientific Interest and Special Protection Area (SSSI/ SPA);
 - River Moriston SAC and
 - Quoich Spillway SSSI
- 3.6 The Site is situated between Loch Cluanie to the north and Loch Loyne to the south. Several watercourses, including Allt Coire na Creadha, Allt na Doire Moire and Allt na h-Aire and lochans are found across the Site, and typically drain north, east, and south into the surrounding lochs. The River Moriston and River Loyne also lie adjacent to the Site.
- 3.7 The Site is bound to the south-east by the operational Beinneun Wind Farm and its Extension (25 turbines, 133.5m to tip and 7 turbines, 136m to tip respectively), the Millennium Wind Farm (26 turbines, 115m to tip) and the consented Millennium South Wind Farm (10 turbines, 132m to tip). Additional surrounding wind farms include the operational Bhlariadh Wind Farm (32 turbines at 135m to tip) and Corrimony Wind Farm (5 turbines, 100m to tip) which

² Distance measured from the centre of the Site.

lie to the north-east of the Site and the operational Stronelaig Wind farm (43 turbines, 135m to tip) to the east.

4 THE PROPOSED DEVELOPMENT

Introduction

- 4.1 This section describes the various elements proposed as part of the proposed development and provides details of what processes will take place at the various stages of the projects' lifecycle (e.g., construction, operation, decommissioning).

The Proposed Development

- 4.2 Energiekontor UK Ltd is investigating the potential for a wind farm development on the Site, consisting of the erection, 35-year operation and subsequent decommissioning of up to 18 wind turbines, with a maximum tip height of up to 230m. The provisional location of the turbines are shown in Figure 4.1. It is likely that the wind farm would provide up to approximately 118.8MW of generating capacity, placing it within the threshold of determination under Section 36 of the Electricity Act 1989. The principal elements of the proposed development are described in further detail below.

Wind Turbines

- 4.3 The turbines would be of a typical modern design comprising a three bladed rotor hub mounted on a nacelle (containing a gearbox and a generator), tower and foundation.
- 4.4 Final turbine selection would be made post-consent following a tendering and procurement exercise. The EIA will therefore be undertaken on the basis of a candidate turbine design consisting of:
- A horizontal axis type with a rotor consisting of three blades, each up to approximately 77.5m in length (giving a total rotor diameter of up to approximately 155m); and
 - A hub height of 122.5m (for 200m to tip machines) or 152.5m (for 230m to tip machines).
- 4.5 It is also assumed that turbines would generate power for all wind speeds between 4m/s and 25m/s; and that at wind speeds greater than 25m/s (gale force), the turbines would shut down for self-protection.
- 4.6 For the purposes of scoping, the proposed development as outlined within Figure 4.1 is split as per the tip heights outlined below in Table 4.1. Tip height has been derived on a turbine-by-turbine basis dependent upon height above ordnance datum, landscape capacity, ecological considerations, and wind resource amongst other factors.

Table 4.1: Turbine Location

Turbine	Easting	Northing	AOD (m)	Proposed Tip Height (m)
1	215215	807181	560.5	200
2	215468	806789	541.6	200
3	215801	806464	491.4	200
4	216050	806030	482.0	230
5	215681	807237	543.3	200
6	216000	806896	539.4	200
7	216266	806502	503.2	200
8	216702	806298	388.5	230
9	216128	807379	507.8	200
10	216465	806971	471.1	200
11	217111	806551	427.5	200
12	216608	807426	480.5	230
13	216975	807007	386.0	230
14	217155	807652	468.8	200
15	217516	807068	365.8	200
16	217582	807543	366.8	230
17	217735	807998	396.7	200
18	218031	807443	343.0	230

Associated Development

4.7 The principal items of associated development include:

- **Site tracks:** to provide access for construction and maintenance vehicles from the site entry point to the substation and wind turbines. These would be installed at the commencement of the construction phase and would remain until the end of the decommissioning phase. They would have a c.5m running width with local widening on corners and would be surfaced with coarse aggregate. Depending on localised ground conditions, they would either be cut into, or floated above, the ground.
- **Temporary construction compound/storage area:** to provide a secure area for site office facilities and storage of materials and components. To be constructed adjacent to the site track, with an 80m x 40m hardcore base, surrounded by a security fence and locked gates. The fence and gates would be removed at the end of the construction phase and the hardcore base retained but allowed to re-vegetate.
- **Crane hardstandings and outrigger pads:** to provide a level and firm base for the cranes at the location of each turbine. Each would be a maximum of 215m x 65m and surfaced with coarse aggregate.

- **Transformer housings:** the transformers to step up the voltage exported from each turbine (from 690V to 33kV) would either be placed within the wind turbines themselves, or in a small secure external transformer housing placed next to each wind turbine tower, depending on the final turbine choice.
- **High voltage and control cables:** to form power and control circuits linking each turbine to the on-site substation, cables would be placed in trenches (dimensions to be determined by ground conditions but typically 0.5m wide x 1m deep) routed alongside the tracks.
- **Substation building:** a 15m long by 10m wide single storey building which will house the switchgear and control equipment plus secure storage space.
- **Energy Storage Compound-** The energy storage equipment would be housed within ISO shipping containers with a 2.4m high palisade fence in a compound 17.5m by 31.9m. Battery containers will be positioned a minimum of 2.5m apart to facilitate access to all sides. Battery energy storage equipment will be factory assembled and delivered to site in standard 12.2m long x 2.4m wide ISO shipping containers. The energy storage compound would be situated in proximity to the substation following the decommissioning of the construction compound.
- **Borrow pit(s)** would be utilised should ground investigations suggest that there is suitability and would provide an opportunity to re-use excavated material from turbines and their hardstandings and foundations. This would be located within shallow peat of less than 1m.

Grid Connection

- 4.8 A grid connection would be required to feed the electricity generated by the wind farm into the distribution network for the operational period of the project. The grid connection would be subject to a separate design and consent process which would be led by the local Distribution Network Operator, Scottish and Southern Energy Networks (SSEN).

Access

- 4.9 At the time of writing, other access options as well as the port of entry are still being discussed. However, for the purposes of scoping, turbine loads will arrive at Kyle of Lochalsh Harbour by ship and would be transported to the Site via the main A87 trunk road, travelling east. The turbines would then turn south at the A87/ A887 junction to stay on the A87 and finally turn west into the Site, utilising existing forestry tracks.

Construction Phase

- 4.10 It is estimated that it would take approximately 12 months to construct the proposed development. Construction works would include:
- Temporary and permanent highway modifications to enable vehicles to access the Site from the local and strategic highway network;
 - Construction of permanent new site tracks required to access the wind turbine positions. These would be used by civil engineering plant and construction equipment;

- Construction of a secure site compound/storage area for site office facilities and storage of materials and components;
- Installation of hardstandings and outrigger pads for the support of the cranes that would be used for the erection of the turbines;
- Construction of foundations for the support of the turbine structures;
- Wind turbine delivery and erection;
- Installation of transformers in separate housings alongside each wind turbine (if required);
- Installation of on-site high voltage cabling, communication cabling and earthing;
- Installation of the Supervisory Control and Data Acquisition system;
- Construction of the site substation;
- Commissioning of site mechanical and electrical equipment; and
- Reinstatement and landscaping including the removal of temporary site offices, and the reseeded of verges and areas around turbine bases.

4.11 The construction works would mainly follow the order detailed above but many activities may be carried out concurrently to reduce the overall length of the construction programme. There would be construction phasing, with civil engineering works progressing in some areas of the Site whilst turbines were being erected elsewhere. To minimise disruption to land use, site restoration would be undertaken as early as possible in development areas.

4.12 A detailed programme of works would be produced by the construction contractor prior to the commencement of works on Site.

4.13 Should consent be granted, it is likely that construction hours would be restricted by means of a planning condition imposed by THC.

4.14 Construction material would typically be transported by road from source or seaport. Large loads such as wind turbine components (rotor blades, tower sections and nacelles) would be transported to the Site by low loader using a designated route.

Decommissioning Phase

4.15 At the end of the operational period, the wind farm would be decommissioned. This would involve the complete removal of the wind turbines, transformers, substation, switchgear and other equipment over a period of up to 12 months. The removal of the wind farm components would essentially be the reverse of the construction process.

4.16 Energiekontor UK Ltd would provide a decommissioning bank guarantee or insurance bond to ensure that sufficient funds are available at any time during the lifetime of the wind farm to enable all decommissioning works to take place.

4.17 The removal of the wind turbines at the end of the operational life of the proposed development would be the reverse of the erection process, involving similar cranes and procedures. The components would be removed off-site to be re-used elsewhere, dismantled and recycled or disposed of as appropriate.

- 4.18 The decommissioning of the turbine foundations would involve removing the upper part of the reinforced concrete foundation. This could be achieved by conventional construction equipment (e.g., excavator mounted pneumatic hammers etc.).
- 4.19 To achieve the removal of the upper section, which is up to 1.2m deep, a 600mm wide trench would need to be excavated around the approximately 4m diameter upstand to facilitate access for removal of the concrete. All other parts of the foundation would remain in place and no other disturbance of the ground around the turbine would be required.
- 4.20 Once the upstand has been removed, the disturbed area would be reinstated by backfilling with site-derived materials to an agreed method statement, leaving the remaining portion of the foundation approximately 1.2m below ground level.

5 LIKELY SIGNIFICANT EFFECTS

Introduction

- 5.1 The following section discusses significant effects which without mitigation, are likely to result in significant effects and therefore should be subject to EIA. By establishing the extent of potential impact and the likeliness of significant effects, the topic can be scoped into the EIA Report or scoped out as appropriate.
- 5.2 EIA involves the compilation, evaluation, and presentation of any likely significant (both positive and negative) environmental effects resulting from a proposed development, to assist the Competent Authority when considering and determining an application. Early identification of potentially adverse environmental effects also leads to the identification and incorporation of appropriate mitigation measures into the project design to avoid, reduce, and if possible, remedy identified significant adverse environmental effects.
- 5.3 The EIA Regulations require consideration, throughout assessments, of all likely significant environmental effects; direct / indirect; secondary; cumulative; positive/ negative; short/ medium/ long-term; or permanent/ temporary.
- 5.4 For all environmental topics considered, where appropriate the Scoping Report is split into the following broad headings:
- Introduction;
 - Baseline Conditions;
 - Likely Significant Effects During Construction;
 - Likely Significant Effects During Operation;
 - Design and Mitigation;
 - Inclusion or Exclusion from the EIA Report; and
 - Proposed Scope of Assessment.
- 5.5 The EIA Regulations have a requirement to discuss likely significant effects in relation to decommissioning. Unless otherwise stated, it is assumed that decommissioning effects would be very similar to the detail included for construction effects.

6 LANDSCAPE AND VISUAL

Introduction

- 6.1 This section discusses the proposed approach to the assessment of potential effects resulting from the introduction of the proposed development upon the landscape and visual amenity of the Site and surrounding area. These are defined respectively within paragraph 3.21 of the Guidelines for Landscape and Visual Assessment 3 (GLVIA3) as “the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape”, and “the people who will be affected by changes in views or visual amenity at different places”.
- 6.2 A Landscape and Visual Impact Assessment (LVIA) will be undertaken as part of the Environmental Impact Assessment (EIA). The LVIA will accord with GLVIA3. The work undertaken to date has been prepared by a team of Chartered Landscape Architects at LUC (Land Use Consultants Ltd.) including viewpoint selection discussed within the proposed scope of the assessment.
- 6.3 This section of the report sets out the proposed approach to the assessment of potential significant effects of the proposed development on landscape and visual amenity (including the visual amenity of residents where relevant).

Assessment Methodology

- 6.4 The LVIA will be undertaken following the approach set out in GLVIA3, drawing on subsequent technical clarifications and other current good practice guidance issued by Scottish Natural Heritage (SNH)/NatureScot and the Landscape Institute set out below, to produce a robust and reliable assessment.
- 6.5 In accordance with GLVIA3, landscape and visual effects will be considered separately. GLVIA3 states that the nature of landscape and visual receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to change and the value attached to the existing landscape or views. The nature of the effect should be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect. These aspects will all be considered, to form a judgement regarding the overall significance of landscape and visual effects.

Approach to assessment and data gathering

- 6.6 The assessment will be undertaken in accordance with the methods outlined in the following best practice guidance documents.
- Landscape Institute and the Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment. Third Edition. (GLVIA3);
 - Countryside Agency and SNH (2002), Landscape Character Assessment: Guidance for England and Scotland;

- SNH (2012), Assessing the Cumulative Impacts of Onshore Wind Energy Developments;
- SNH (2017), Siting and Designing Wind Farms in the Landscape. Version 3a;
- Countryside Agency and SNH (2004), Topic Paper 6. Techniques and Criteria for Judging Capacity and Sensitivity;
- Landscape Institute (2019) Visual Representation of Development Proposals – Technical Guidance Note 06/19 ;
- Landscape Institute (2019), Residential Visual Amenity Assessment (RVAA) – Technical Guidance Note 02/19;
- NatureScot (2020), Assessing impacts on Wild Land Areas - Technical Guidance;
- NatureScot (2020), General pre-application and scoping advice for onshore wind farms Guidance;
- SNH (2017), Visual Representation of Wind Farms Guidance. Version 2.2;
- SNH (2015), Spatial Planning for Onshore Wind Farms: Natural Heritage Considerations;
- The Highland Council (THC) (2016), Onshore Wind Supplementary Guidance with Part 2b Addendum (2017); and
- THC (2016), Visualisation Standards for Wind Energy Developments.

Summary Methodology

- 6.7 This section provides a summary of the methodology that would be used to carry out the LVIA to form a chapter in the EIA Report. The full methodology for the LVIA will be included in the EIA Report and agreed through further consultation with THC and NatureScot.
- 6.8 In accordance with GLVIA3, landscape and visual effects will be considered separately. GLVIA3 states that the nature of landscape and visual receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to change and the value attached to the existing landscape or views. The nature of the effect should be assessed in terms of the size and scale, geographical extent, duration, and reversibility of the effect. These aspects will all be considered, to form a judgement regarding the overall significance of landscape and visual effects.
- 6.9 The objective of the assessment of the proposed development is to predict significant effects on the landscape and visual resource. Effects will be assessed as either significant or not significant. The significance of effects is assessed through a combination of two considerations; the sensitivity of the landscape or visual receptor and the magnitude of change that will result from the proposed development. In accordance with the Landscape Institute's GLVIA3, the methodology requires the application of professional judgement.
- 6.10 The objective of the cumulative LVIA is to describe, visually represent and assess the ways in which the proposed development would have additional effects when considered together with other existing, consented or application stage developments and to identify related significant cumulative effects arising from the proposed development. The guiding principle in preparing the cumulative LVIA is to focus on the likely significant additional

effects and in particular those which are likely to influence the outcome of the consenting process.

- 6.11 The LVIA will determine whether effects are beneficial, neutral, or adverse in accordance with defined criteria. The effects of the proposed development are of variable duration, and are assessed as short-term, medium-term or long-term, and permanent, partly reversible or temporary/reversible.

Design and Mitigation

- 6.12 The design of the proposed development will aim to achieve a coherent and structured form, in line with guidance provided by NatureScot. The EIA Report will present the rationale behind the final design strategy and document the iterative design process in response to the technical and environmental constraints identified through the EIA process. The objective in designing the wind farm will be to develop a layout that responds to its setting in terms of landform and pattern, and which presents a simple visual image, avoiding the clustering of turbines and the isolation of outlying turbines in views from key locations and views from sequential routes seen by a range of different receptors (people) of varying sensitivity. It is also recognised that the final layout will need to balance a wide range of technical and environmental considerations.
- 6.13 The design of the proposed development will also consider its interaction in both landscape and visual terms with other existing and proposed wind farms, including the adjacent operational and consented wind farms located to the west of the Great Glen.
- 6.14 All elements of the proposed wind farm infrastructure will be considered in terms of locational and design choice, and the LVIA will set out how the design of ancillary elements has evolved to minimise visual effects, especially from nearby and sensitive visual receptors.
- 6.15 The EIA Report will provide an explanation as to how the design and layout of the proposed development has taken into account local planning and design guidance, along with any further design changes as a result of further consultation and assessment.
- 6.16 THC Onshore Wind Energy Supplementary Guidance includes ten landscape and visual criteria against which development proposals will be assessed by the Council. These criteria will be considered as part of the iterative EIA process and refinement of the layout of the proposed development.

Study Area

- 6.17 The Study Area for the landscape and visual impact assessment will cover a radius of 45km from the nearest turbine, as shown in Figure 6.1, in accordance with guidance set out in NatureScot guidance in relation to turbines of over 150m blade tip height.
- 6.18 A Zone of Theoretical Visibility (ZTV) plan will be used to identify which landscape and visual receptors require consideration in the assessment, and which can be scoped out because they are unlikely to be significantly affected. While the design of the proposed

development is subject to change, the following figures are provided to illustrate the theoretical visibility of the indicative 18 turbine scoping layout:

- Figure 6.2 – Blade Tip Height ZTV (200-230m) & Visual Receptors
- Figure 6.3 – Hub ZTV Height (122.5-152.5m) & Visual Receptors
- Figure 6.4 – Blade Tip Height ZTV (200-230m) & Landscape Character Types (LCTs)
- Figure 6.5 – Blade Tip Height ZTV (200-230m) Designated Landscapes & Wild Land

Field Survey

- 6.19 Field survey work will be carried out during several visits, and records will be made in the form of field notes and photographs. Field survey work will include visits to the Site, viewpoints, designated landscapes, wild land areas and extensive travel around the Study Area to consider potential effects on landscape character and on experiences of views seen from designated landscapes, settlements and routes.

Assessment of Effects

Landscape Effects

- 6.20 The LVIA will provide a baseline description of the physical landscape of the Site, relevant LCTs, designated landscapes and wild land areas within the Study Area and will focus on assessing the likely significant effects of the proposed development, including cumulative effects. The assessment of landscape effects will take account of the sensitivity of the landscape, acknowledging any value placed on the landscape through formal designation at either a national or local level.

Visual Effects

- 6.21 Visual effects are experienced by people (visual receptors) at different locations across the Study Area, including at static locations (for example from settlements or promoted viewpoints) and transitional locations (such as sequential views experienced from routes, including roads, footpaths or cycle routes). Visual receptors are the people who will be affected by changes in views at these places, and they are usually grouped by what they are doing at those locations (for example residents, motorists, recreational users etc.).
- 6.22 Visual effects resulting from the proposed development will be considered within the context of the existing baseline conditions which include the operational wind farms of Beinneun, Beinneun Extension, Millennium, Bhlaraidh, Corrimony and Stronelaig. Operational wind farms, in addition to under constructed, consented and proposed wind farms, within the Study Area are shown in Figure 6.6.
- 6.23 The assessment of visual effects arising from the introduction of the proposed development will be based on analysis of turbine hub and blade tip height Zone of Theoretical Visibility (ZTVs), field studies and consideration of changes in views from representative viewpoints.

Potential cumulative impacts

- 6.24 The cumulative landscape and visual assessment (CLVIA) will be carried out in accordance with the principles outlined in GLVIA3 and NatureScot guidance.
- 6.25 The LVIA for the proposed development will consider the potential effects of the addition of the proposed development to the existing landscape against a baseline that includes existing wind farms and those under construction. The CLVIA will consider the potential additional effects of the proposed development against a baseline that includes other consented or reasonably foreseeable wind energy developments within the Study Area. This includes wind farms that are consented but unbuilt and undetermined planning applications (including those which may have been refused and are currently at appeal stage), and in some instances scoping stage schemes where it is deemed appropriate and sufficient information is available in the public domain.
- 6.26 A review of the existing pattern(s) of wind energy development will be undertaken, considering operational, consented and proposed wind farms which are the subject of a valid planning application, up to a 45km radius from the proposed development.
- 6.27 Within this 45km search area, the cumulative LVIA will seek to focus detailed assessment on those wind farms located in the more immediate context of the Site, and in this instance, those located within an approximate 20km radius of the proposed development. Turbines of less than 50m to blade tip and single turbines beyond 5km from the Site will not be included in the detailed assessment. Cumulative research will be undertaken and a scope of assessment and 'cumulative cut-off date' agreed prior to submission to ensure the most up to date information available is included.

Residential Visual Amenity

- 6.28 Effects upon residential visual amenity become a matter of public rather than private interest when properties or groups of properties become widely regarded as unattractive places to live. Should a Residential Visual Amenity Assessment (RVAA) be deemed necessary, properties within approximately 2.5km of the proposed wind turbines will be considered within an assessment prepared in accordance with the latest good practice guidance.

Visualisations

- 6.29 Wirelines and photomontage visualisations will be used to consider and illustrate changes to views. Photomontages will involve overlaying computer-generated perspectives of the proposed development over the photographs of the existing situation to illustrate how the views will change against the current baseline. Other (cumulative) wind farm developments visible from each of the viewpoints will be shown on the accompanying wirelines. Visualisations will be prepared in accordance with NatureScot guidance. Ancillary elements such as permanent anemometer masts, access tracks and the onsite substation, any proposal for battery storage systems should these be considered and felling of forestry will be shown in photomontages for viewpoints within 5km when they would be visible. Beyond 5km it is considered unlikely that these ancillary elements would

form more than a minor element of the entire development when compared to the turbines.

Assessment of Visible Aviation Lighting

- 6.30 In the interests of aviation safety, structures of $\geq 150\text{m}$, including wind turbines, require visible aviation lighting. Potential visual effects arising from the necessity for this visible lighting (typically consisting of 2000 candela red lights mounted on the wind turbine nacelle and intermediate 32 candela lights mounted on the wind turbine tower) will be a key consideration. Informed by current NatureScot (2017) visualisation guidance and scoping advice the assessment of visual effects will consider the effects arising from visible aviation lighting.
- 6.31 The assessment will be carried out as part of the LVIA and included within the assessment or as a Technical Appendix to the EIA Report, and will be informed by a hub height ZTV as a starting point to illustrate the areas from which nacelle may be visible. Visibility of turbine lighting from each LVIA assessment viewpoint will be considered, however the night-time assessment will focus on viewpoints from which significant effects may be anticipated.
- 6.32 Night-time photomontage visualisations will be prepared from two or three of the final LVIA assessment viewpoints, outlined in Table 6.1. The baseline night-time context and presence of existing artificial lighting in views from these locations will be described, with the related sensitivity identified and the magnitude of change arising from the proposed aviation lighting assessed. The predicted effects of aviation lighting on the visual amenity at these viewpoints will be drawn on to provide general comment on the likely effects across the wider Study Area.

Baseline Conditions

Site Description

- 6.33 The proposed Site is located within an upland area to the west of the Great Glen, to the south of Glen Moriston and to the north of Glen Garry. The Site covers an area of rolling open moorland with occasional rocky outcrops. Blocks of coniferous forestry extend along the southern Site boundary on the lower slopes of Meall Odhar and Doire Mhor.
- 6.34 The topography of the Site reaches a high point at Beinn Loinne (775m Above Ordnance Datum (AOD)) in the north-west of the Site, descending to Loch Cluanie in the north and Loch Loyne in the south. The steep-sided ridgeline between Beinn Loinne to Ceann Druim na Garbh-leitir extends across the northern extents of the Site, with the northern Site boundary formed by the shore of Loch Cluanie. A lower lying ridgeline between Creag na Nathrach and Meall Odhar extends across the southern extents of the Site, with the southern Site boundary formed by the shore of Loch Loyne. A number of watercourses, including Allt Coire na Creadha, and lochans are found across the Site, and typically drain north, east and south into the surrounding lochs.

Designated Landscapes and Wild Land

- 6.35 The north-western edge of the Site is located within the locally designated Moidart, Morar and Glen Shiel Special Landscape Area (SLA). There are a number of other designated landscapes found across the surrounding area including Cairngorms National Park, National Scenic Areas (NSAs) and Special Landscape Areas (SLAs). Other Designated Landscapes within the 45km Study Area are shown on Figure 6.5 and include:
- 6.36 National Landscape Designations
- Cairngorms National Park, located 33.4km to the east of the Site;
 - Glen Affric NSA, located 5.4km to the north of the Site;
 - Kintail NSA, located 12.4km to the north-west of the Site;
 - Knoydart NSA, located 16.9km to the west of the Site
 - Glen Strathfarrar NSA, located 29.3km to the north-east of the Site;
 - Nevis and Glen Coe NSA, located 30.0 km to the south of the Site; and
 - Loch Shiel NSA, located 36.1km to the south-west of the Site.
 - Local Landscape Designations
 - Moidart, Morar and Glen Shiel SLA, located in the north-western corner of the Site and extending west and south-west;
 - Loch Lochy and Oich SLA, located 10.0km to the south-east of the Site;
 - Loch Ness and Duntelchaig SLA, located 16.8km to the north-east of the Site;
 - Strathconon, Monar and Mullardoch SLA, located 15.6km to the north of the Site;
 - Ben Alder, Laggan and Glen Banchor SLA, located 30.0km to the south-east of the Site; and
 - Ardgour SLA, located 36.6km to the south-west of the Site.
- 6.37 As shown in the ZTV on Figure 6.5, there is very limited visibility indicated from the NSAs nearest the Site, including from:
- summits and elevated landform within the north of the Glen Affric NSA;
 - summits and elevated landform in the south of the Kintail NSA; and
 - summits along the eastern boundary of the Knoydart NSA.
- 6.38 Distant views of operational wind farm development are afforded from many of these localised areas within the Glen Affric, Kintail and Knoydart NSAs.
- 6.39 As shown in the ZTV on Figure 6.5, there is intermittent visibility indicated from SLAs nearest the Site, including from:
- the centre and northern extents of the Moidart, Morar and Glen Shiel SLA; and
 - elevated landform and summits in the north of the Loch Lochy and Oich SLA.

Wild Land Areas

- 6.40 Wild Land Areas (WLA) are not statutory designations, but NPF3 recognises wild land as a “nationally important asset” (NPF3, p.42), while SPP notes that development plans “should identify and safeguard the character of areas of wild land as identified on the 2014 SNH map of wild land areas” (SPP, p.47) and lists areas of wild land as Group 2: Areas of Significant Protection (SPP, Table 1, p.39). Wild Land Areas within the 45km Study Area are shown on Figure 6.5.
- 6.41 WLA 24: Central Highlands is located approximately 2.0km to the north of the Site at its closest point. As shown in the ZTV on Figure 6.5, theoretical visibility is indicated from elevated landform and summits along the southern boundary of the WLA and, at a greater distance from the site, summits located in the east of the WLA.
- 6.42 Key attributes and qualities include:
- *“An extensive and awe-inspiring range of large scale, high and rugged mountains;*
 - *An extensive, remote mountain interior with strong qualities of sanctuary and solitude;*
 - *Deep glens that have steep, arresting side slopes as well as rivers and waterfalls, with some containing lochs and some revealing human land use; and*
 - *Small and extensive areas of native woodland that contribute to the sense of naturalness and highlight some arresting landscape features.”*
- 6.43 WLA18: Kinlochhourn – Knoydart – Morar is located approximately 3.8km to the west of the Site at its closest point. As shown in the ZTV on Figure 6.5, theoretical visibility is indicated from the hill summits and elevated landform within the eastern extents of the WLA.
- 6.44 Key attributes and qualities include:
- *“High, remote, rugged and rocky mountains with a strong sense of naturalness and awe – some angular in profile with sweeping peaks, and some more massive in form;*
 - *A very remote interior drawing adventurous and experienced hillwalkers;*
 - *Spectacular deep glens and lochs cut through the high mountains and hills, strongly influencing visibility, remoteness and access through the landscape;*
 - *A strong influence of the sea around the north and western edges of the WLA, providing open views and contributing to perceived awe, remoteness and naturalness; and*
 - *Secluded and elevated rocky cnochan and plateaux, containing hidden depressions and lochs with a strong sense of sanctuary”.*
- 6.45 WLA19: Braeroy, Glenshirra and Creag Meagaidh is located approximately 16.9km to the south-east of the Site at its closest point. As shown in the ZTV on Figure 6.5, theoretical visibility is limited to hill summits and elevated landform within the WLA, including Creag Meagaidh, and not widespread across the WLA. Furthermore, views of operational wind farms, including Beinneun, Beinneun Extension, Millennium and Bhlaraidh, are afforded from these areas of the WLA. The proposed development will be seen in distant views with an existing presence of wind farm development.

6.46 Other Wild Land Areas within the 45km Study Area include:

- WLA 14: Rannoch – Nevis – Mamores – Alder, located 30.2km to the south-east of the Site
- WLA 20: Monadhliath, located 32.7km to the east of the Site; and
- WLA 13: Moidart – Ardgour, located 36.5km to the south-west of the Site.

Landscape Character

6.47 NatureScot recently made available via its website an updated national Landscape Character Assessment (LCA) for Scotland which now supersede the earlier landscape character descriptions and mapping published in the later 1990s.

6.48 The Site is located within the Rugged Massif – Inverness Landscape Character Type (LCT 220) as shown on Figure 6.4. Key characteristics include:

- *“Parallel ranges of massive mountains of irregular landform divided by deep glaciated valleys;*
- *Mainly broad, sometimes rounded rugged summits connected by long ridges and relatively few individual mountain peaks, particularly in the east;*
- *Steep terrain with many mountain-side burns and occasional lochans in corries and depressions;*
- *Landcover of rock outcrops, glacial debris, deer-grazed heather and rough grassland create a smooth surface with mottled texture, with alpine habitats on high land to the west;*
- *Almost uniform texture and cover from lower to upper levels in the east makes the size of the hills difficult to perceive;*
- *Tracts of Caledonian pinewoods and occasional small patches of open birch woodland add colour, texture and seasonal diversity;*
- *Largely uninhabited, few signs of human activity or human artefacts in the interior, and sparse archaeological evidence;*
- *Hill ranges combine to create a fairly even undulating skyline and a sense of enclosure when viewed from straths;*
- *Views from the hill tops at the edges of the massif offer expansive views of the adjacent straths and surrounding landscape character types; and*
- *A sense of remoteness and wildness which is particularly strong within the interior.”*

Visual Amenity

6.49 Visual effects occur when the introduction of the proposed development changes or influences the visual amenity and views experienced by people (visual receptors) in the area. Visual receptors to be considered within the assessment include:

- Residents in individual dwellings and settlements;
- People travelling on major roads; and

- Recreational receptors including walkers, cyclists and horse riders on long distance recreational routes and core paths, as well as visitors to outdoor tourist destinations where views form a key element of the visitor experience.

6.50 The representative viewpoints proposed for the visual assessment are identified in Table 6.1, with consideration given to the potential landscape and visual receptors that are described above and shown on the ZTV for the proposed development.

Table 6.1: Representative Assessment Viewpoints

Viewpoint	Easting	Northing	Approximate Distance ³	Reason for Selection
VP1: A87 layby near memorial	219512	806793	1.6km	Represents views experienced by road users, including tourists, at a popular stopping place/viewpoint above Loch Loyne.
VP2: A87 above Loch Loyne	218653	804576	2.5km	Represents views experienced by road users, including tourists, at a popular stopping place/viewpoint above Loch Loyne.
VP3: Old Military Road	220975	811366	4.7km	Represents views experienced by recreational receptors.
VP4: Carn Ghluasaid	214643	812477	5.3km	Represents views experienced by recreational receptors within the Moidart, Morar and Glen Shiel SLA and WLA 24: Central Highlands.
VP5: Meall Dubh	224547	807846	6.5km	Represents views experienced by recreational receptors.
VP6: A887 near Tomchrasky Farm	225635	811745	8.7km	Represents views experienced by road users, including tourists, and similar views experienced from nearby residential properties.
VP7: Carn a' Chaochain	223483	817794	11.4km	Represents views experienced by recreational receptors within WLA 24: Central Highlands.
VP8: Ben Tee	224071	797225	11.6km	Represents views experienced by recreational receptors within the Loch Lochy and Oich SLA.
VP9: Gairich	202576	799613	14.7km	Represents views experienced by recreational receptors within the Moidart, Morar and Glen Shiel SLA and WLA 18: Kinlochhourn - Knoydart – Monar.
VP10: A887 near Dundreggan	233708	814723	17.3km	Represents views experienced by road users, including tourists, and similar views experienced from nearby residential properties.
VP11: Sgurr a Mhoaraich	198359	806579	16.9km	Represents views experienced by recreational receptors within the Knoydart NSA, Moidart, Morar and Glen Shiel SLA and WLA 18: Kinlochhourn - Knoydart – Monar.

³ Approximate distance as measured from nearest turbine of the proposed development.

Viewpoint	Easting	Northing	Approximate Distance ³	Reason for Selection
VP12: Burach	238292	814159	21.3km	Represents views experienced by recreational receptors within the Loch Ness and Duntelchaig SLA.
VP13: Meall Mor	224919	828043	21.3km	Represents views experienced by recreational receptors within the Glen Affric NSA, Strathconon, Monar and Mullardoch SLA, and WLA 24: Central Highlands.
VP14: Creag Meagaidh	241829	787536	31.0km	Represents views experienced by recreational receptors within the Ben Alder, Laggan, Glen Banchor SLA and WLA 19: Braeroy – Glenshirra – Creag Meagaidh.
VP15: Meall Fuar-mhonaidh	245703	822197	31.4km	Represents views experienced by recreational receptors within the Loch Ness and Duntelchaig SLA.
VP16: Ben Nevis	216664	771280	34.8km	Represents views experienced by recreational receptors within the Ben Nevis and Glen Coe NSA and WLA 14: Rannoch – Nevis – Mamores – Alder.

Residents

- 6.51 Settlements are those defined as such within the Highland Council Highland-wide Local Development Plan, Inner Moray Firth Local Development Plan and the Cairngorms National Park Local Development Plan. The broad pattern of settlement within the Study Area is generally concentrated within the glens and straths, located along key transportation routes. Outside of settlements, scattered residential properties and farmsteads follow a similar pattern of development.
- 6.52 Within 5-10km of the Site, settlement primarily comprises scattered residential properties located along the A887 and A87 in Glen Moriston and Glen Garry, including a number of residential clustered properties at Dalchreichart 10.0km to the north-east of the nearest proposed turbine and Inchlaggan 4.1km to the south of the nearest proposed turbine.
- 6.53 The settlements nearest the Site are generally located within the Great Glen and include Invergarry, located 13.5km to the south-east of the nearest proposed turbine; Dundreggan, located 15.0km to the north-east of the nearest proposed turbine; Fort Augustus, located 18.3km to the east of the nearest proposed turbine; and Invermoriston located 25.0km to the north-east of the nearest proposed turbine.
- 6.54 The ZTV shown on Figure 6.2 indicates theoretical visibility from scattered residential properties and settlements located along the A887, including near Tomcrasky, Dalchreichart and Dundreggan.

Road Users

- 6.55 Key transport routes within the Study Area include the A87, which is a major road connecting the A82 at Invergarry with Uig in the north of the Isle of Skye. The road passes

to the north, east and south-east of the Site, within less than 1km of the nearest proposed turbine.

- 6.56 The A887 passes through Glen Moriston, approximately 3.5km to the north-east of the nearest proposed turbine. The road connects the A82 at Invermoriston and the A87 near Bun Loyne.
- 6.57 The A82 passes along the eastern shore of Loch Lochy, through Fort Augustus and along the western shore of Loch Ness, approximately 15.0km to the east of the nearest proposed turbine.
- 6.58 Lengthy sections of the road network within the Study Area are not affected by theoretical visibility as indicated by the ZTV. Roads from which theoretical visibility is indicated include:
- Sections of the A87 extending from the north-east of the promoted viewpoint near Ardochy House to the eastern edge of Loch Cluanie; and
 - Sections of the A887 extending from the road's junction with the A87 to the Dundreggan Reservoir Power Station.

Recreational Routes

- 6.59 Recreational routes within the Study Area are shown on Figures 6.2 and 6.3.
- 6.60 The Great Glen Way is a long-distance path, promoted as one of Scotland's Great Trails, and connects the west and east coast of Scotland passing through the Highlands. The walking path follows the western shore of Loch Lochy, the Caledonian Canal and Loch Ness approximately 14.8km east of the nearest proposed turbine. The South Loch Ness Trail passes from Fort Augustus to Inverness, broadly following the eastern shore of Loch Ness approximately 20.0km north-east of the nearest turbine. The Great Glen Way and South Loch Ness trail form the Loch Ness 360° Trail, a promoted circular route that circumnavigates Loch Ness.
- 6.61 National Cycle Network (NCN) Route 78: the Caledonia Way runs from Campbeltown to Inverness, and passes to the east of Loch Ness and Loch Lochy approximately 14.8km east of the nearest turbine.
- 6.62 A number of THC Core Paths are located within the Study Area, primarily clustered around the communities and settlements within the Great Glen. A number of core paths to the north-east of the Site connect Glen Moriston and Glen Affric.
- 6.63 There are many hills, including Munro Hill summits, which are popular with hill walkers and other recreational users (e.g., mountain bikers) within the Study Area. This includes the Munro hill summits of Tom a Choinnich, Carn Ghluasaid and Carn Eighe located to the north of the Site, the seven Munro hill summits on the South Cluanie ridge to the west of the Site and the Munro hill summit Gairich located to the south-west of the Site.
- 6.64 Many of the promoted routes and sections of the Core Path network within the Study Area are not affected by theoretical visibility as indicated by the ZTV shown on Figure 6.2.

Theoretical visibility is indicated from a number of the local, Corbett and Munro hill summits within the Study Area.

Other Wind Farm Developments

- 6.65 Other nearby wind farm development includes the operational Beinneun (25 turbines at 133.5m tip height), Beinneun Extension (7 turbines at 136m tip height) and Millennium (26 turbines at 125m tip height) located on elevated ground between Glen Moriston and Glen Garry approximately 2.4km to the east of the Site. The consented Millennium South (8 turbines at 132m tip height) is located 5.0km to the east of the Site.
- 6.66 The pattern of further wind farm development within the Study Area generally comprises clusters of development in the remote and elevated plateau landscapes located to the north-east and east of the Site, generally set back beyond 5km either side of the Great Glen.
- 6.67 Table 6.2 below and Figure 6.6 detail the locations of operational, consented and proposed wind farms (including those at scoping) within 45 km of the Site.

Table 6.2: Other Wind Farm Developments

Name	Status	Blade Tip Height (m)	Number of Wind Turbines	Distance ⁴
Beinneun Extension	Operational	136	7	3.3km
Beinneun	Operational	133.5	25	3.6km
Tomchrasky	Scoping	220	29	3.6km
Millennium South	Consented	132	8	7.4km
Millennium	Operational	125	26	7.6km
Fiodhag (formerly Fasnakyle)	Scoping	149.9	46	17.9km
Bhlaraidh	Operational	135	32	20.4km
Chrathaich	Scoping	180	17	21.4km
Corrimony	Operational	100	5	23.3km
Bhlaraidh Extension	Scoping	180	18	24.5km
Loch Liath	Scoping	200	26	24.8km
Druim Fada	Consented	121	4	28.6km
Cloiche	Application Submitted	149.9	36	28.8km
Stronelairg	Operational	135	67	30.0km
Dell	Consented	130.5	14	30.9km

⁴ Approximate distance between the turbines of the proposed development and the turbines of the closest turbines of the wind energy development listed.

Name	Status	Blade Tip Height (m)	Number of Wind Turbines	Distance ⁴
Glenshero	Appeal/Public Inquiry	135	39	31.0km
Corriegarth 2	Application Submitted	149.9	16	38.2km
Corriegarth	Operational	120	23	38.8km
Dunmaglass	Operational	125	33	45.7km

Inclusion or Exclusion from EIA

- 6.68 The selection of receptors to include in the assessment is based on the requirement for EIA to consider the likely significant effects. Effects that are not likely to be significant do not require assessment under the EIA Regulations.
- 6.69 The assessment will identify landscape and visual effects separately, as detailed in the approach to the assessment set out above and will set out any implications of these effects on designated landscapes and wild land. The assessment will focus on the identification and, wherever appropriate, the mitigation of potential significant landscape and visual effects.
- 6.70 The primary form of mitigation for landscape and visual effects arising from large scale wind farm development is through iterative design of the layout of the turbines and associated infrastructure, with reference to key views, viewpoints, and receptors. Design evolution will be set out in detail in the design strategy that will form part of the EIA Report, and will demonstrate how the design of the proposed development has sought to avoid, reduce or minimise landscape and visual effects wherever feasible.
- 6.71 Further mitigation will be considered where relevant and appropriate, and the residual effects taking account of the implementation of this mitigation will be presented in the assessment.

Proposed Scope of Assessment

Potential Effects Scoped In

- 6.72 Based on baseline conditions, it is proposed the following receptors are scoped into the assessment:
- The Rugged Massif – Inverness Landscape Character Type (LCT 220) and other LCTs within a 15km radius, where there may be potential for significant effects;
 - WLA 24: Central Highlands and WLA 18: Kinlochhourn – Knoydart – Morar;
 - Moidart, Morar and Glen Shiel and Loch Lochy and Oich SLAs;
 - Transient views experienced by road users travelling through the Study Area from the A87 and A887;
 - Views experienced by recreational receptors, including those at hill tops; and

- Views experienced by residential receptors living nearby and travelling in the nearby locality of the Site; and
- Potential landscape and visual effects in relation to visible turbine aviation lighting.

6.73 The assessment will also consider potential cumulative landscape and visual effects arising through combined, successive, and/or sequential interactions with other existing and proposed wind farms including most notably the Beinneun (operational), Beinneun Extension (operational), Millennium (operational) and Millennium South (consented) Wind Farms, as well as other existing and proposed wind farms situated within the vicinity of the Great Glen.

Potential Effects Scoped Out

6.74 Based on the baseline conditions recorded, theoretical visibility indicated on the ZTVs (Figures 6.2, 6.3, 6.4, 6.5) and distance from the Site, it is proposed that the following are scoped out:

- Effects on Landscape Character Types (LCTs) beyond a 15km radius of the Site with no/ limited intervisibility or where effects on landscape character are unlikely to be significant due to the characteristics of the landscape;
- Effects on Cairngorms National Park;
- Effects on all SLAs within the Study Area, excluding the Moidart, Morar and Glen Shiel and Loch Lochy and Oich SLAs;
- Effects on all NSAs within the Study Area;
- Effects on all WLAs within the Study Area, excluding WLA 24: Central Highlands and WLA 18: Kinlochhourn – Knoydart – Morar; and
- Effects upon residential visual amenity in the form of a Residential Visual Amenity Assessment (RVAA).

Questions for Consultees

- Q6.1: Can consultees confirm that GLVIA3 is an appropriate methodological starting point for the LVIA assessment? Are there any comments on the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?
- Q6.2: Are there other sources of information which should inform the baseline and assessment of potential effects on landscape character and designated landscapes?
- Q6.3: Are there any comments on the proposed list of assessment viewpoint locations listed in Table 6.1?
- Q6.4: Are there any further wind farms, in addition to those shown on Figure 6.6, to consider as part of the cumulative assessment?
- Q6.5: Are there any further landscape or visual receptors to be considered within the assessment (i.e., where it is expected that significant effects may occur)?
- Q6.6: Can consultees confirm that an RVAA will not be required?

- Q6.7: Are there any comments on the landscape character types scoped in and scoped out of the assessment?
- Q6.8: Are there any comments on the designated landscapes scoped in and scoped out of the assessment?
- Q6.9: Are there any comments on the Wild Land Areas scoped in and scoped out of the assessment?

7 NOISE

Introduction

- 7.1 Noise will be emitted as a result of the proposed development during the construction, operation and decommissioning phases. This section provides a summary of the noise effects anticipated at each stage of the development and, where appropriate, details of the proposed assessment work.

Baseline Conditions

- 7.2 The Site is located within a rural location where background noise levels usually consist of natural sources such as wind generated noise in addition to noise from traffic, birds and occasional overhead aircraft and are anticipated to be relatively low.
- 7.3 As set out previously within this Scoping Report, there are a number of operational wind farm developments within the vicinity of the proposed development.
- 7.4 The area surrounding the Site is sparsely populated with a single property, Bun Loyne, lying approximately 4km to the north-east of the nearest turbine. A cluster of properties located at Inchlaggan lie approximately 4.1km to the south of the nearest proposed turbine, however the Site and these properties are separated by Loch Loyne and extensive commercial forestry.

Likely Significant Effects during Construction

- 7.5 Noise emitted during the construction phase would be temporary and short term in nature and can be minimised through careful construction practices.
- 7.6 Likely significant effects during construction are typically centred around noisy activities in the vicinity of noise sensitive receptors, such as the construction or widening of access roads, drilling or blasting associated with potential rock movement during construction, the formation of borrow pits, and the noise associated with heavy goods vehicles and general construction movements. Noise sensitive receptors in this case are considered to be residential properties.
- 7.7 Whilst it is possible that some noise may be audible at the nearest properties during the construction phase, the effective control of these impacts can be achieved by way of a suitable planning condition which limits the times of day that such activities can occur.
- 7.8 However, due to the significant separation between the turbine locations and the nearest property, which lies approximately 4km away, it is likely working distances are such that site-specific predictions and assessments of noise from construction are not required. Additionally, access to the Site is likely to build upon existing forestry tracks which are set back from the nearest property by at least 650m. On this basis, no specific assessment of construction noise is considered necessary.

Likely Significant Effects during Operation

- 7.9 Significant effects may occur due to the movement of turbine blades through the air and varies with turbine dimensions including rotor diameter and hub height. Wind speed and direction are factors which can exacerbate effects under varying conditions. Noise is also generated via the turbine transformer, as well as from the substation compound.
- 7.10 It is also possible to experience significant effects at each noise assessment location from the proposed development either in isolation, or cumulatively with other renewable energy development.
- 7.11 Impacts associated with operational traffic noise are not anticipated given the low number of journeys to and from the Site for routine maintenance.
- 7.12 A desktop assessment against the 35dB simplified ETSU-R-97 limit would most likely be sufficient. This is subject to verification there are no other residential properties located closer than this.

Design and Mitigation

- 7.13 For construction noise, it is unlikely that any form of mitigation will be required unless any major site access track works are required in the very close vicinity of residential properties. Mitigation measures would be incorporated into site design by avoiding track proximity to residential properties as far as practicable, following good practice in construction techniques including avoiding work out of normal day-time construction hours wherever possible.
- 7.14 For operational noise, the proposed turbine layout will be designed to comply with the noise limits established in accordance with ETSU-R-97.
- 7.15 There are a range of turbine makes and models that may be appropriate for the proposed development. The final selection of turbine is likely to follow a competitive tendering exercise once consent for the proposed development has been granted. The final turbine model may therefore differ from that on which the assessment is based. However, the final choice of turbine will be required to comply with the noise limits established in the ETSU-R-97 assessment.

Inclusion or Exclusion from the EIA Report

- 7.16 Significant impacts associated with construction noise are unlikely when considering the separation distance between the proposed development and residential properties. As a result, it is proposed that construction noise is scoped out and not taken forward for further assessment.

Proposed Scope of Assessment

Matters to be scoped in

Operational Noise

- 7.17 The Scottish Government's Planning Advice Note PAN1/2011 'Planning and Noise'⁵ refers to the 'Onshore Wind Turbines' web based document which in turn states that ETSU-R-97 'The Assessment and Rating of Noise from Windfarms'⁶ should be used by Planning Authorities 'to assess and rate noise from wind energy developments until such time that an update is available.' The web based document also refers to the Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise'⁷ (IOA GPG) as a source, which provides:
- 'significant support on technical issues to all users of the ETSU-R-97 method for rating and assessing wind turbine noise, and should be used by all IOA members and those undertaking assessments to ETSU-R-97. The Scottish Government accepts that the guide represents current industry good practice.'*
- 7.18 ETSU-R-97 details a methodology for establishing noise limits for proposed wind farm developments and these limits should not be exceeded. ETSU-R-97 states that noise limits should be set relative to existing background noise levels at the nearest receptors and that these limits should reflect the variation in both turbine source noise and background noise with wind speed. Separate noise limits apply for quiet daytime and for night-time periods. Quiet daytime limits are chosen to protect a property's external amenity, and night time limits are chosen to prevent sleep disturbance indoors, with windows open.
- 7.19 ETSU-R-97 recommends that wind farm noise for the quiet daytime periods should be limited to 5 dB(A) above the prevailing background or a fixed minimum level within the range 35 - 40 dB LA90,10min, whichever is the higher. The precise choice of criterion level within the range 35 - 40 dB(A) depends on a number of factors, including the number of dwellings in the neighbourhood of the wind farm (relatively few dwellings suggest a figure towards the upper end), the effect of noise limits on the number of kWh generated (larger sites tend to suggest a higher figure) and the duration and level of exposure to any noise. These factors will be taken into account with justification for deriving suitable noise limits included in the noise assessment.
- 7.20 An exception to the setting of both the quiet daytime and night time fixed minimum limit occurs where a property occupier has a financial involvement with the proposed development. In that case the fixed minimum limit can be increased to 45 dB LA90,10min or the prevailing background noise LA90 plus 5 dB, whichever is the greater for both the quiet daytime and night-time periods.
- 7.21 A background noise survey may not be required for situations where predicted wind turbine noise levels at the nearest noise sensitive properties is limited to an LA90,10min of

5 Scottish Government, Planning Advice Note PAN 1/2011: 'Planning and Noise'

6 ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97)

7 Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (2013)

35dB(A) up to wind speeds of 10m/s at 10m, as the protection of the amenity of those properties can be controlled through a simplified noise condition as detailed in ETSU-R-97.

7.22 Due to the significant separation distance between the proposed development and the nearest properties, a simplified noise limit is proposed for the assessment of operational noise.

7.23 ETSU-R-97 states that:

'For single turbines or wind farms with very large separation distances between the turbines and the nearest properties, a simplified noise condition may be suitable. If the noise is limited to an $LA_{90,10min}$ of 35dB(A) up to wind speeds of 10m/s at 10m height, then this condition alone would offer sufficient protection of amenity, and background noise surveys would be unnecessary.'

7.24 Consultation will be undertaken with the Council's Environmental Health Department prior to the commencement of the noise assessment in order to agree the overall assessment methodology.

7.25 A cumulative noise assessment will also be undertaken in order to consider the consented, operational and proposed wind farms within the vicinity of the proposed development. The assessment will be undertaken in accordance with ETSU-R-97 and the IOA GPG.

Matters to be scoped out

Construction Noise

7.26 Noise emitted during the construction and decommissioning phase will be temporary and short term in nature and can be minimised through careful construction practices. The effective control of these impacts can be achieved by way of a suitable planning condition.

7.27 Should consent be granted, construction and decommissioning noise can be controlled through the use of two legislative instruments which address the effects of environmental noise with regard to construction noise, vibration, and nuisance:

- The Environmental Protection Act 1990 (EPA)⁸; and
- The Control of Pollution Act 1974 (CoPA)⁹.

7.28 The CoPA provides two means of controlling construction noise and vibration. Section 60 provides the Local Authority with the power to impose at any time operating conditions on the development site. Section 61 allows the Developer to negotiate a set of operating procedures with the Local Authority prior to commencement of site works.

Decommissioning Noise

7.29 Noise associated with decommissioning cannot be accurately determined at this stage given decommissioning technology may be very different in 35 years' time. In addition,

⁸ Environmental Protection Act 1990
⁹ Control of Pollution Act 1974

should the proposed development be consented, there is the possibility that an extension of consent may be granted to operate the proposed development for longer.

Vibration

- 7.30 Given the nature of construction activities proposed and the relative distances from residential receptors, the risk of ground borne vibration impacting on residential receptors is considered very low, as such a vibration assessment will not be undertaken.

Low-Frequency Noise

- 7.31 A study¹⁰, published in 2006 by acoustic consultants Hayes McKenzie on the behalf of the Department of Trade and Industry (DTI), investigated low frequency noise from wind farms. This study concluded that there is no evidence of health effects arising from infrasound or low frequency noise generated by wind turbines.

- 7.32 In February 2013, the Environmental Protection Authority of South Australia published the results of a study into in infrasound levels near wind farms¹¹. This study measured infrasound levels at urban locations and rural locations with wind turbines close by, and rural locations with no wind turbines in the vicinity. It found that infrasound levels near wind farms are comparable to levels away from wind farms in both urban and rural locations. Infrasound levels were also measured during organised shutdowns of the windfarms; the results showed that there was no noticeable difference in infrasound levels whether the turbines were active or inactive.

- 7.33 Bowdler et al., (2009)¹² concluded that:

"...there is no robust evidence that low frequency noise (including 'infrasound') or ground-borne vibration from wind farms generally has adverse effects on wind farm neighbours".

- 7.34 More recently during a planning Appeal (PPA-310-2028, Clydeport Hunterston Terminal Facility, approximately 2.5 km south-west of Fairlie, 9 Jan 2018), the health impacts related to low frequency noise associated with wind turbines were considered at length by the appointed Reporter (Mr M Croft). The Reporter considered evidence from Health Protection Scotland and the National Health Service. In addition, he also considered low frequency noise surveys undertaken by the Appellant and the Local Authority both of which demonstrated compliance with planning conditions and did not identify any problems attributable to the turbine operations; some periods with highest levels of low frequency noise were recorded when the turbines were not operating.

- 7.35 The Reporter concluded that:

10 Hayes McKenzie (2006). 'The measurement of low frequency noise at three UK windfarms', Hayes Mckenzie, The Department for Trade and Industry, URN 06/1412, 2006.

11 Environment Protection Authority (2013). 'Infrasound levels near windfarms and in other environments'. Available Online At: http://www.epa.sa.gov.au/xstd_files/Noise/Report/infrasound.pdf

12 Bowdler et al (2009). 'Prediction and Assessment of Wind Turbine Noise: Agreement about relevant factors for noise assessment from wind energy projects'. Acoustics Bulletin, Vol 34 No2 March/April 2009, Institute of Acoustics.

- The literature reviews by bodies with very significant responsibilities for the health of local people found insufficient evidence to confirm a causal relationship between wind turbine noise and the type of health complaints cited by some local residents.
- The NHS's assessment is that concerns about health impact are not supported by good quality research.
- Although given the opportunity, the Community Council failed to provide evidence that can properly be set against the general tenor of the scientific evidence.

7.36 It is therefore not considered necessary to carry out specific assessments of low frequency noise and that it should be scoped out.

Amplitude Modulation

7.37 In its simplest form, Amplitude Modulation (AM), by definition, is the regular variation in noise level of a given noise source. This variation (the modulation) occurs at a specific frequency, which, in the case of wind turbines, is defined by the rotational speed of the blades, i.e. it occurs at the rate at which the blades pass a fixed point (e.g. the tower), known as Blade Passing Frequency.

7.38 A study¹³ was carried out in 2007 on behalf of the Department for Business, Enterprise and Regulatory Reform (BERR) by the University of Salford, which investigated the incidence of noise complaints associated with wind farms and whether these were associated with AM. The study defined AM as aerodynamic noise from wind turbines with a greater degree of fluctuation than normal at blade passing frequency. Its aims were to ascertain the prevalence of AM on UK wind farm sites, to try to gain a better understanding of the likely causes, and to establish whether further research into AM is required.

7.39 The study concluded that AM had occurred at only a small number (4 of 133) of wind farms in the UK, and only for between 7% and 15% of the time. It also stated that, the causes of AM are not well understood, and that prediction of the effect was not currently possible.

7.40 This research was updated in 2013 by an in-depth study undertaken by Renewable UK¹⁴, which has identified that many of the previously suggested causes of AM have little or no association to the occurrence of AM in practice. The generation of AM is based upon the interaction of a number of factors, the combination and contributions of which are unique to each site. With the current state of knowledge, it is not possible to predict whether any particular site is more or less likely to give rise to AM, and the incidence of AM occurring at any particular site remains low, as identified in the University of Salford study. The report includes a sample planning condition to address AM, however that has not yet been validated or endorsed by UK Government.

7.41 In 2016, the IOA proposed a measurement technique to quantify the level of AM present in any particular sample of windfarm noise¹⁵. In August 2016 a report written by

13 University of Salford (2007). 'Research into aerodynamic modulation of wind turbine noise'. Report by University of Salford, The Department for Business, Enterprise and Regulatory Reform, URN 07/1235, July 2007.

14 Renewable UK (2013). 'Wind Turbine Amplitude Modulation: Research to improve understanding as to its Cause and effects', Renewable UK, 2013.

15 Institute of Acoustics, (2016) A Method for Rating Amplitude Modulation in Wind Turbine Noise

WSP/Parsons Brinkerhoff was published by the Department of Business, Energy & Industrial Strategy (BEIS, formerly The Department of Energy & Climate Change) who have published guidance¹⁶. The report sought to build on the conclusions of the IOA study in order to define an appropriate assessment method for AM, including a penalty scheme and an outline planning condition.

- 7.42 In November 2017, an article entitled 'A planning condition for wind farms' was published in Vol 42 No 6 of the Acoustics Bulletin magazine. The article was written collaboratively by a number of noise consultants and suggested a noise planning condition which included consideration of AM. The authors noted in the article that:

'Whilst local authorities and developers have waited for a planning condition that could be applied to newly consented wind farms, or to those already consented but with a suspensive condition, the report Wind Turbine AM Review (WTAMR) by WSP/Parsons Brinckerhoff for DECC arguably did not provide that. In addition there have been a number of comments on WTAMR that we consider should be addressed.'

- 7.43 The article then went on to propose a draft condition but noted that: 'This approach is proposed based on the current state of understanding but may be subject to modification in light of new research and further robust information.' And 'As various people before us have discovered, the derivation of a penalty is not easy. There is not sufficient reliable research to be confident that a penalty system would always provide a fair indication of the impact of AM.'

- 7.44 At the time of writing there has been no official response to those recommendations from the IOA Noise Working Group and, as yet no endorsement from any Scottish Government Minister or Department. The recommendation to impose a planning condition and the associated penalty scheme is at odds with the advice from the IOA GPG which currently states (paragraph 7.2.10):

'The evidence in relation to "Excess" or "Other" Amplitude Modulation (AM) is still developing. At the time of writing, current practice is not to assign a planning condition to deal with AM.'

- 7.45 At time of writing there is no agreed methodology which can be used to predict the occurrence of AM or an agreed methodology which can be used to determine whether the effects of AM, should it occur, are likely to be significant. On that basis it is considered therefore that amplitude modulation should be scoped out.

Questions for Consultees

- Q7.1: Do the consultees agree with the scoping out of construction and decommissioning noise within the EIA Report?
- Q7.2: Do the consultees agree with the use of ETSU-R-97 and the IOA GPG to assess operational noise?
- Q7.3 Do the consultees agree with the scoping out of low frequency noise and amplitude modulation?

¹⁶ BEIS, (2016), Review of the evidence on the response to amplitude modulation from wind turbines

8 ECOLOGY

Introduction

- 8.1 This section presents the approach to be used in assessing the potential effects of the surveys being employed to define the ecological baseline conditions on the Site and adjacent areas in order to allow a robust assessment of potential effects from the proposed development on ecological features.
- 8.2 It describes the methods of assessments and indicates any areas which are to be scoped out of assessment. It also reviews the designated sites in proximity to the site and addresses what impacts will be considered for those sites.
- 8.3 The fundamental approach to the ecology assessment detailed within the EIA Report for the proposed development will be to:
- Identify the ecological baseline of the proposed development and adjacent areas;
 - Evaluate the nature conservation value and/or the legal or planning status of identified receptors;
 - Assess the risk of the proposed development to adversely impact upon features assessed as being above a threshold; and to
 - Present appropriate mitigation or compensation strategies, if required.

Survey Methodology

Survey Areas

- 8.4 Ecology survey areas are based on the Developable Area and suitable buffers as illustrated on Figure 8.1. A survey of the access route along the existing track from the A87 carriageway to the east of the Developable Area.

Developable Area Description

- 8.5 The Developable Area predominantly lies on heathland with areas of bog and upland grassland. A number of small watercourses tribute across the site in a south easterly direction, forming the Allt Coire na Creadha which drains into Loch Loyne to the south of the Development site. Similar moorland habitats lie to the east and west of the Developable area and Bunloinn ridge lies to the north of the site. There is an area of conifer plantation in the south of the Developable Area, which extends down to Loch Loyne.

Desk Study

Designated Sites

- 8.6 Information about statutory and non-statutory sites will be sought during the desk study undertaken as part of the ecological assessment and internationally designated nature

conservation sites (Special Areas of Conservation; SACs; and Ramsar sites) within 10km of the Development and nationally designated sites (Special Site of Scientific Interest (SSSIs) and National Nature Reserves; NNRs) within 5 km of the Development identified. Special Protection Areas (SPAs) are designated for their ornithological interest and are included in the ornithology Section 9.

- 8.7 Data relating to non-statutory sites designated for ecology within 2km of the Development site will be considered for the assessment. These include:
- Woodland listed on the Ancient Woodland Inventory (AWI);
 - Local Wildlife Sites (LWS)¹⁷; and
 - Scottish Wildlife Trust (SWT) reserves.
- 8.8 The River Moriston SAC is the only known site designated on account of its non-avian ecological interest within the area of search. The River Moriston SAC lies approximately 1km to the north of the Developable Area and is designated on account of its internationally important populations of Atlantic salmon *Salmo salar* and freshwater pearl mussel *Margaritifera margaritifera*. The watercourses within the Developable Area are not hydrologically connected with the River Moriston SAC as they instead tribute into Loch Loyne to the South of the site.
- 8.9 A single area of woodland listed on the Ancient Woodland Inventory lies within the 2km area of search. Doire Mhor is an area of woodland classified as being an ancient woodland of semi-natural origin is located approximately 1.8km east north-east of the developable area. To date no known non-statutory sites designated for their ecological interest are located within 2km of the Developable area.

Background Records

- 8.10 Background records of non-avian protected species shall be obtained from the Highland Biological Recording Group.
- 8.11 These searches will be limited to legally protected animals considered to be potentially sensitive to onshore windfarm developments, as well as local conservation priorities, and therefore will include:
- Conservation of Habitats and Species Regulations 2010 – Schedule 2 ‘European Protected Species’;
 - Wildlife and Countryside Act 1981 (as amended) (WCA) – Schedule 5 animals¹⁸ and Schedule 8 plants; and
 - Protection of Badgers Act 1992 – Badgers.

¹⁷ Local Wildlife Site is a generic name for a variety of non-statutory designated sites; other common examples include: Sites of Importance for Nature Conservation (SINCs); Sites of Scientific Interest (SSI); Biological Heritage Sites (BHSs).

¹⁸ excluding those only protected from sale and possession under Parts 5(a) and 5(b)

Baseline Survey Methodology

Phase 1 Habitat Survey and National Vegetation Classification

- 8.12 All land within 250m of the Developable Area and 100m of the Access Route will be mapped using both Phase 1 Habitat Survey methodology and the National Vegetation Classification (NVC) system. Phase 1 survey methodology aims to classify habitat types present. Habitats of high conservation value and ground water dependent terrestrial ecosystems (GWDTEs) will be surveyed in more detail, down to community level using NVC methodology.
- 8.13 Habitat and community boundaries will be mapped, and species lists compiled with target notes also provided where appropriate.

Bats

- 8.14 All bat species found in the UK are legally protected under 'The Conservation (Natural Habitats &c.) Regulations 1994' (as amended 2007 and 2009), which transposes the 'EC Habitats Directive 1992' into UK legislation. Bat species are listed on Annex IV of the Directive (bat species appearing in Annex II and afforded greater protection are not present within Scotland).
- 8.15 Any features with the potential to support roosting, foraging, and commuting bats will be recorded during the Phase 1 Habitat Survey.
- 8.16 The following surveys will be undertaken to assess bats at Bunloinn:
- Roost potential: visual assessment of the potential of features to support roosting bats; and
 - Remote monitoring: fourteen full spectrum bat detector units will be deployed for a minimum of ten consecutive nights on three occasions between May to September 2021. Remote monitoring has been designed in accordance with current best practice guidance^{19,20}.

Otter

- 8.17 Otter are European Protected Species and the places which they use for shelter/rest are offered European level protection under Annex IV of the Habitats Directive. Recent amendments to the Habitats Directive (Amendment No. 2 (Scotland) Regulations 2007 – S.I. 2007/80) strengthened the legal protection and effectively removed otter from the provisions of the WCA and the Nature Conservation Scotland Act (2004) (NCSA). Protection therefore rests with the amended Habitats Regulations, removing many of the defences previously available under the WCA and making non-compliance with a derogation licence a criminal offence.

¹⁹ Collins, 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition. Bat Conservation Trust.

²⁰ NatureScot et al. 2019. Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation.

- 8.18 The survey area for otter is defined with regard to specified standards, which are set out within the NatureScot/ Scottish Natural Heritage (SNH) publication; Otters and Development²¹. The survey area comprises all suitable habitat within the Developable Area and an additional buffer of 250m upstream and downstream of any crossing where access allows.
- 8.19 In the present study, all water bodies, and watercourses, including field drains and ditches, will be surveyed for signs indicative of the presence of otter, including:
- Otter spraint;
 - Footprints;
 - Potential resting areas - namely underground holts (e.g. beneath the roots of bankside trees) or above ground couches (e.g. in reedbeds);
 - Slides or other well-used access points to watercourses;
 - Feeding remains e.g. fish carcasses; and
 - Otter sightings.

Water Vole

- 8.20 The Water Vole survey area mirrors that described for otter above.
- 8.21 The survey methodology adopted follows that described in the Water Vole Conservation Handbook (Strachan and Moorhouse 2006)²². All watercourses and standing waterbodies in the survey area are identified using an Ordnance Survey (OS) map, aerial photography and field survey. All riparian zones, watercourses and standing waterbodies within the survey area are surveyed for evidence of water vole. Where possible, all bodies of water are surveyed from the channel/bed to give the best possible view of any potential bankside habitat. The survey comprises searching for field signs as described in Strachan and Moorhouse (2006), and this includes burrows, latrines, footprints and feeding stations.
- 8.22 American mink are well known as predators of water vole. As such, presence of this species is also recorded in conjunction with the water vole survey.

Pine Marten

- 8.23 The pine marten receives full protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
- 8.24 Certain methods of killing or taking pine martens are illegal under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).
- 8.25 It is an offence to intentionally or recklessly:
- kill, injure or take a pine marten;

²¹ Scottish Natural Heritage (Undated). Otters and Development. Scottish Wildlife Series. <http://www.snh.org.uk/publications/on-line/wildlife/otters/default.asp>.

²² Strachan, R. and Moorhouse, T. (2006). Water Vole Conservation Handbook. Second Edition. Wildlife Conservation Research Unit, University of Oxford.

- damage, destroy or obstruct access to a nest or den – i.e. any structure or place which such an animal uses for shelter or protection; and
- disturb such an animal when it is occupying a nest or den for shelter or protection (except when this is inside a dwelling house).

8.26 Searches for pine marten dens and other evidence of the presence of this species (such as scats), will be searched for during the protected species survey.

Wildcat

8.27 The wildcat is a European protected species and is fully protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

8.28 It is an offence to deliberately or recklessly:

- capture, injure, kill or harass a wildcat
- disturb a wildcat in a den or any other structure or place it uses for shelter or protection
- disturb a wildcat while it is rearing or otherwise caring for its young
- obstruct access to a den or other structure or place wildcats use for shelter or protection or otherwise deny the animal use of that place
- disturb a wildcat in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species
- disturb a wildcat in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young

8.29 It is also an offence to:

- damage or destroy a breeding site or resting place of such an animal (whether or not deliberately or recklessly)
- keep, transport, sell or exchange, or offer for sale or exchange any wildcat (or any part or derivative of one) obtained after 10 June 1994.

8.30 Searches for wild cat dens and other evidence of the presence of this species (such as scats), will be searched for during the protected species survey.

Red Squirrel

8.31 Red squirrels and their dreys (resting places) receive full protection under Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended).

8.32 It is an offence to intentionally or recklessly:

- kill, injure or take a red squirrel;
- damage, destroy or obstruct access to a drey or any other structure or place which a red squirrel uses for shelter or protection; or
- disturb a red squirrel when it is occupying a structure or place for shelter or protection.

8.33 Searches of the forestry around the access track and developable area will be undertaken to record the presence of any dreys, or evidence of the presence of red squirrel, such as stripped feeding cones.

Badger

8.34 Badgers are legally protected from intentional cruelty, such as badger-baiting and from the results of lawful human activities, including housing, road or other developments, under the Protection of Badgers Act 1992 (PBA), which was amended by the Nature Conservation (Scotland) Act 2004. The PBA consolidates all previous legislation including the Badgers Act 1973 (as amended) and the Badgers (Further Protection) Act 1991.

8.35 Badgers are afforded full protection from wilful or attempted killing, injuring and interference with the badger's sett. The PBA defines a badger sett as: 'any structure or place, which displays signs indicating current use by a badger'. Badgers are also given protection from killing or taking by certain means under Schedule 6 of the WCA.

8.36 The badger survey area comprises all suitable habitat within the Development site. Within this area field signs including badger setts, badger paths, latrine sites, evidence of foraging and dung pits are searched for, and this approach was based on methodologies described by Harris, et al. (1989)²³ and is summarised as follows:

- All hedgerows, field boundaries, paths and other linear features within the survey area are walked to locate badger field signs. In addition, all areas of woodland and scrub are systematically searched for evidence of badger activity;
- Badger paths are identified through the observation of field signs including prints, badger hairs on barbed wire or vegetation, dung pits and scratching posts;
- The interiors of fields are surveyed in addition to their boundaries, where they exhibit evidence of badger foraging or where badger paths pass through them; and
- Other areas offering the potential to contain badger setts (identified during survey, from Ordnance Survey (OS) maps, aerial photography and Phase 1 Habitat maps) are actively searched where practicable.

Amphibians and Reptiles

8.37 Amphibians and reptiles receive varying degrees of protection under UK legislation. Great-crested newts are listed on Annexes II and IV ('European Protected Species') of the EC Habitats Directive and Appendix II of the Bern Convention. The directive is transposed into UK law through the 'Conservation (Natural Habitats, &c.) Regulations 1994', which lists great-crested newts under Schedule 2, and the WCA.

8.38 All assessable ponds within the survey area were assessed for their suitability to support great crested newts through a site Habitat Suitability Index (HSI) assessment²⁴. Any of these

²³ Harris, S., Cresswell, P. & Jeffries, D. (1991) Surveying for Badgers. Mammal Society.

²⁴ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.

ponds with an HSI score of >0.5 will be subject to presence/absence surveys following methodologies outlined in the Great Crested Newt Mitigation Guidelines²⁵.

- 8.39 No specific surveys are planned for reptile species. However, a 'watching brief' will be maintained during other surveys and any reptile sightings will be recorded.

Consultation

- 8.40 To date there has not been any consultation specific to ecology. Consultation regarding ornithology survey scope was undertaken in 2019. This is summarised in Section 9 below.

Assessment Methodology

- 8.41 The approach taken to assess ecological effects follows the guidance document produced by the Institute of Ecology and Environmental Management (CIEEM)²⁶. These guidelines set out the process for assessment through the following stages:

- Describing the ecological baseline in the zone of influence through survey and desk study;
- Assigning a value to "Valued Ecological Receptors" (VERs) - these are the designated sites, habitats and species of highest ecological value present;
- Identifying and characterising the potential effects on these VERs based on the nature of construction, operation and decommissioning activities associated with the development;
- Describing any mitigation, compensation and/or enhancement measures associated with the Development and assessing residual significance; and
- Identification of any monitoring requirements.

Evaluating Features of Ecological Interest

- 8.42 Value is defined on the basis of the geographic scale given in Table 3.1. Attributing a value to a receptor is generally straightforward in the case of designated sites, as the designations themselves are normally indicative of a value level. For example, a Special Area of Conservation (SAC) designated under the Habitats Directive is explicitly of European (International) importance. For non-designated receptors, the use of guidelines such as the national guidelines for the selection of Sites of Special Scientific Interest (SSSI) can be helpful in attributing a value to a receptor.

- 8.43 Note that some receptors, such as legally protected species, may be of insufficient ecological value to warrant consideration within the ecological impact assessment, but are instead considered in the context of legal and policy implications.

²⁵ Great crested newt mitigation guidelines (2001). English Nature.

²⁶ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

Table 8.1 Approach to Valuing Ecological Receptors

Level of Value	Examples
International	An internationally designated site (e.g. SAC), or site meeting criteria for international designations. Species present in internationally important numbers (>1% of biogeographic populations).
National	A nationally designated site (SSSI, or a National Nature Reserve (NNR)), or sites meeting the criteria for national designation. Species present in nationally important numbers (>1% UK population). Large areas of priority habitat listed on Annex I of the EC Habitats Directive and smaller areas of such habitat that are essential to maintain the viability of that ecological resource.
Regional	Species present in regionally important numbers (>1% of the Natural Heritage Zone population). Sites falling short of criteria for selection as a SSSI, but of greater than the local criteria below.
Local	Scottish Wildlife Trust Reserves, Local Nature Reserves that do not include features as described above. Areas of semi-natural ancient woodland smaller than 0.25 ha. Areas of habitat or species considered to appreciably enrich the ecological resource within the local context, e.g. species-rich flushes or hedgerows.
Negligible	Usually widespread and common habitats and species. Receptors falling below local value are not normally considered in detail in the assessment process.

- 8.44 Part of the process of attributing value to species involves defining the population to be valued and requires professional judgment in order to identify an ecologically coherent population against which effects on integrity can be assessed. For example, for wide-ranging species such as otter, it may be more appropriate to value the otter population in a whole catchment, whereas for more localised species, such as water vole, value may be attributed to groups of related colonies which function as a meta-population.
- 8.45 Socio-economic, cultural, and secondary/supporting values may be considered, where appropriate, but do not otherwise form a key part of this assessment.

Characterising Potential Ecological Effects

- 8.46 The magnitude of effects is predicted quantitatively where possible. Where this is not possible, a more qualitative approach is taken. Magnitude can be negative (very high, high, moderate, low or negligible) or positive. High magnitude effects could include large-scale permanent and/or high probability changes that affect the receptor's population or extent. Low magnitude effects would typically be small in scale or possibly temporary in their effect. The criteria used in this assessment for describing the overall magnitude of a potential effect are summarised in Table 8.2.

Table 8.2 Effect Magnitude

Effect Magnitude	Description
Very high negative	Very high effects would result in total or almost complete loss of a population/habitat and would result in a permanent adverse effect on the integrity of the population. The conservation status of the receptor would be affected.
High negative	High effects may include those that result in large-scale, permanent changes in a receptor, and likely to change its ecological integrity. These effects are therefore likely to result in overall changes in the conservation status of a species population/habitat.
Moderate negative	Medium effects may include moderate-scale permanent changes in a receptor, or larger-scale temporary changes, but the integrity of the population/habitat is not likely to be affected. This may mean that there are temporary changes in the conservation status of the population/habitat, but these are reversible and unlikely to be long-term.
Low negative	Low effects may include those that are small in magnitude, have small-scale temporary changes, and where integrity is not affected. These effects are unlikely to result in overall changes in the conservation status of a population/habitat.
Negligible	No perceptible change in the ecological receptor.
Positive	The changes in the ecological receptor are considered to be beneficial.

8.47 The assessment also takes into account whether the effect is positive or negative, short term (for example only during construction) or long term (throughout the lifetime of the development), reversible or permanent.

8.48 It is also important to consider the degree of confidence in the assessment and to quantify the certainty of the effects on the ecological resource. The following categories are used in this assessment:

- Certain/near certain: probability estimated at 95% or higher;
- Probable: probability estimated above 50% but below 95%;
- Unlikely: probability estimated at above 5% but less than 50%; and
- Extremely unlikely: probability estimated at less than 5%.

Determining Significance of Potential Ecological Effects

8.49 Having followed this process, the significance of an effect is then determined. The CIEEM Guidelines use only two categories: "significant" or "not significant". A significant effect is defined in ecological terms as an effect on the integrity or conservation status of a defined site, habitat or species. The significance of an effect is determined by considering the value of the receptor and the magnitude of the effect and applying professional judgement as to whether the integrity of the receptor will be affected. This concept can be applied to both designated sites (for example, a SSSI) and to defined populations (for example a regional breeding population).

- 8.50 The term integrity is used here in accordance with the definition adopted by the ODPM Circular 06/2005 on Biodiversity and Geological Conservation²⁷ whereby designated site integrity refers to "...coherence of ecological structure and function...that enables it to sustain the habitat, complex of habitats and/or levels of populations of species for which it was classified". Integrity therefore refers to the maintenance of the conservation status of a habitat or species population at a specific location or geographical scale.
- 8.51 Effects are more likely to be considered significant where they affect receptors of higher conservation value or where the magnitude of the effect is high. Effects not considered to be significant would be those where the integrity of the receptor is not threatened, effects on receptors of lower conservation value, or where the magnitude of the effect is low.
- 8.52 In this assessment, an effect that threatens the integrity of a receptor is considered to be significant in terms of the EIA Regulations. Effects assessed as not significant should be considered as not significant in terms of the EIA Regulations. It should be noted that, alongside the criteria provided, professional judgement is applied in determining the significance of potential effect. Mitigation measures and detailed design work avoid and reduce potentially significant effects, but it is also best practice to propose mitigation measures to reduce negative effects that are not significant.

Mitigation, Compensation and Enhancement

- 8.53 Mitigation, compensation and enhancement measures should be presented in terms of the integrity/conservation status of the ecological resource to which it applies.
- 8.54 Mitigation measures should be developed during the design process where possible and aim to:
- Avoid negative ecological effects – especially those that could be significant; and
 - Reduce negative effects that cannot be avoided.
- 8.55 Compensation seeks to minimise any remaining significant negative ecological effects that cannot be avoided by a mitigation strategy. Compensation measures often carry a degree of uncertainty and there may also be a time lag between damage and compensation.
- 8.56 Ideally enhancement measures should also be implemented where possible to achieve net ecological gain.
- 8.57 Potential significant cumulative effects on any valued ecological receptors identified within the assessment and nearby schemes within 10km of the Development site will also be addressed.
- 8.58 The Ecology Chapter will also be accompanied by an outline Habitat Management Plan (HMP), which will be designed in consultation with stakeholders to mitigate any significant

²⁷ ODPM Circular 06/2005 provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. However, this definition of integrity is equally applicable in Scotland for the purposes of ecological impact assessment.

effects arising from the development and, where possible, provide ecological enhancement.

Questions for Consultees

- Q8.1: Do consultees agree that the range of surveys carried out/proposed is sufficient and appropriate to conduct a robust impact assessment?
- Q8.2: Are there any other relevant consultees who should be contacted, or other sources of information that should be referenced with respect to the ecology assessment?
- Q8.3: Do consultees believe that there are further species or designated sites which need to be considered in the assessment?

9 ORNITHOLOGY

Introduction

- 9.1 This section of the report sets out the proposed approach to the assessment of potential effects on birds. It sets out the survey methodologies ongoing since September 2019 and presents a brief summary of key findings to date.

Consultation

- 9.2 Consultation was undertaken with NatureScot on 21st November 2019 to outline the proposed ornithology survey methods for the site and to invite comment on ornithology survey scope.
- 9.3 NatureScot responded on 13th December 2019 with the following recommendations:
- To minimise disturbance to breeding black-throated diver and common scoter associated with the West Inverness-shire Lochs SPA survey data should be obtained from Alison Maclennan from RSPB on Skye.
 - Raptor survey and consultation with Highland Raptor Study Group should include up to date information on golden eagle within 6km of the development and within 13km of the development for white-tailed eagle.
 - All survey work should adhere to SNH guidance.

Desk Study

Designated Sites

- 9.4 Information about statutory and non-statutory sites designated for ornithology will be sought during the desk study undertaken as part of this assessment. In terms of ornithology, internationally designated nature conservation sites (Special Protected Areas (SPAs) and Ramsar sites) within 20 km of the Development and nationally designated sites (SSSIs and National Nature Reserves; NNRs) within 5 km of the Development will be identified.
- 9.5 Data relating to non-statutory sites designated for ornithology within 2km of the Development site will be considered for the assessment. A single SSSI site is located within 5km of the Developable Area and two SPAs are located within 20km of the Developable Area (see Table 9.1).

Table 9.1: SPA / Ramsar sites within 20 km of the Windfarm.

Site name	Designation	Distance from site (km)	Reason for designation
West Inverness-shire Lochs	SPA/SSSI	600 m S	This site qualifies by regularly supporting internationally important breeding populations of common scoter and black-throated diver.

Site name	Designation	Distance from site (km)	Reason for designation
Glen Affric to Strathconon SPA	SPA	12.5 km N	The site qualifies by supporting an internationally important breeding golden eagle population.

9.6 No non-statutory sites designated for ornithology have been identified within 2 km of the Development.

Background Records

9.7 Background bird species of conservation concern (Birds Directive Annex 1, WCA Schedule 1, red and amber listed species) shall be requested from:

- The Royal Society for the Protection of Birds (RSPB); and
- The Highland Raptor Study Group (RSG).

Baseline Survey Methodology

Breeding Bird Survey

9.8 The Breeding Bird Survey (BBS) follows the Brown and Shepherd methodology²⁸. This methodology is used to census upland breeding waders and will be adapted to record all other breeding bird species within the survey area. The survey area comprises the Developable Area plus all accessible land within a 500 m buffer zone (Figure 9.1). Surveys take place between 08:00 and 18:00 hours.

9.9 The surveyors walk a predetermined transect through 500 m × 500 m grid squares ensuring that all points within the survey area are approached to within 100 m. Surveyors spend 20-25 minutes surveying each 500 m × 500 m grid square. All species seen or heard will be recorded accurately onto large-scale field maps, using standard British Trust for Ornithology (BTO) Common Bird Census (CBC) notation. This allows for a distinction between different species and between different behaviours – particularly between behaviours indicative of breeding (e.g. singing, alarm calling, aggressive interactions, distraction displays etc.) and those not related to breeding. The breeding bird survey results will be supplemented by records of breeding birds noted during other surveys carried out in the breeding season. If a singing or displaying bird was recorded at a particular location within the survey area on at least one of the three visits, it can be assumed to be holding a territory and/or breeding.

9.10 Criteria used to classify territorial behaviour includes:

- Presence of nest, eggs and/or chicks;
- Alarm calling indicative of nest, young or territory;
- Singing males;
- Displaying or song-fighting;

²⁸ Brown, A.F. and Shepherd, K.B. (1993). "A method for censusing upland breeding waders". Bird Study 40: 189-195.

- Distraction display;
- Birds aggressively defending territories;
- Birds are seen carrying food to nest or young; and
- Birds carrying faecal sacs away from active nests.

Key Breeding Bird Survey Results to Date

- 9.11 In the 2020 breeding season one pair of greenshank, one pair of dunlin and three pairs of greenshank were recorded within the breeding bird survey area. All located around the western extent of the survey area in and around bog pool habitats.

Breeding Raptor and Owl Survey

- 9.12 In addition to the BBS, walkovers and short Vantage Point (VP) watches of all accessible areas of habitat within 2km of the Developable Area (Figure 9.1) are being carried out on a regular basis to establish whether or not raptors of conservation concern were breeding within or close to the site, following methodologies detailed in Hardey et al. (2006)²⁹. Target species include Birds Directive Annex and WCA Schedule 1 listed raptor species. This area is extended to 6km for golden eagle and 13km for white-tailed eagle. Observations of buzzard, sparrowhawk and kestrel will also be noted.

Key Breeding Raptor Survey Results to Date

- 9.13 A merlin was holding territory approximately 1km north of the Developable Area in 2020 and considered to have attempted to breed, although no young were observed. There have been records of both golden eagle and white-tailed eagle recorded in the breeding raptor survey area, but to date there has been no evidence of breeding. There is ongoing consultation with Stuart Benn (Eagle Coordinator for Highland Raptor Study Group) to discuss eagle activity at the site and to update on any nearby known breeding eagle locations, which will be used to inform the assessment for the EIAR.

Breeding Common Scoter and Black-throated Diver

- 9.14 Following consultation with NatureScot, surveys for Common Scoter and Black-Throated Diver are not being undertaken, to avoid any duplicate monitoring and the potential for additional disturbance with the RSPB monitoring which is currently being undertaken at the West-Inverness-shire Lochs SPA. Incidental observations of these species, recorded during other surveys (i.e. raptor surveys) are noted, however. In order to inform the assessment breeding diver and common scoter data will be requested from the RSPB monitoring programme, which it is understood from consultation with NatureScot is currently run by Alison Maclennan from RSPB on Skye.

²⁹ Hardey, J., Crick, H., Werham, C., Riley, H., Etheridge, B., Thompson, D. 2006. Raptors: a field guide to survey and monitoring. SNH, Inverness.

Flight Activity Surveys

- 9.15 Vantage point (VP) watches are on-going using the standard SNH methodology³⁰, providing data for the assessment of the flight activity and collision risk of target species: Annex 1/Schedule 1 raptors and owls, wildfowl, waders, grebes, herons, divers, terns and black grouse. Secondary species included all other raptors, all gull species and raven.
- 9.16 A minimum of 36 hours observation will be carried out from two vantage points for each season (breeding and non-breeding). Vantage point locations and viewsheds are illustrated on Figure 9.2.
- 9.17 Surveys will be undertaken over a two-year period, due to the presence of the West Inverness-shire Lochs SPA, composite features of which lie to the north (Loch Cluanie) and south of the site (Loch Loyne).
- 9.18 As such, qualifying species for West Inverness-shire Lochs SPA (namely breeding common scoter and black-throated diver) are a primary focus for flight activity surveys.
- 9.19 For each target species flight the following details are being recorded:
- Number of birds;
 - Time;
 - Duration of flight within the survey area;
 - Species, age and sex (when identification of age/sex was possible); and
 - Flying height in three height bands corresponding approximately to below, at or above Rotor Swept Height (RSH) on detection and at 15 second intervals thereafter.
- 9.20 The flight path of each target species recorded was drawn as accurately as possible onto a large-scale map in the field. Each recorded flight path was numbered and cross-referenced to the flight data.
- 9.21 Secondary species were recorded in 5-minute summaries. During each 5-minute period of the watch, the minimum number of each species attributable to the flight activity observed was recorded, including details of the height (as estimated to the nearest 15m) and location of the birds relative to the proposed turbine layout.

Key Flight Activity Results to Date

- 9.22 As at end of April 2021 36 target species flights, comprising eight target species have been recorded during the flight activity surveys. The most frequently recorded species was golden eagle with 18 flights. No common scoter or black-throated diver flights have been recorded. Secondary species flights are limited low numbers of records of raven, buzzard, kestrel and gulls. Target species flights to date are summarised in Table 9.2 below.

³⁰ SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. SNH. Baffleby.

Table 9.2: Target Species Flights

Species	Number of Flights	Peak Number of Birds
Golden eagle	18	2
Greenshank	6	1
Greylag goose	3	107
Pink-footed goose	3	77
White-tailed eagle	3	1
Red kite	1	1
Golden plover	1	1
Merlin	1	1

Black Grouse Lek Surveys

9.23 Black Grouse Lek surveys were conducted using the methods outlined in Gilbert et al. (1998). An initial visit (late-March-April) was undertaken to identify and map suitable habitat, followed by a second visit (during April -mid May) to search for leks within those areas already identified. A third visit (during April -mid May) was then undertaken to count the number of birds present at any lek sites. The black grouse survey area comprises 1.5km from the developable area (Figure 9.1).

Key Black Grouse Survey Results

9.24 Black grouse are present in the survey area, albeit in low numbers. Groups of one to two males have been recorded lekking in transient locations in the east and the south of the survey area.

Assessment Methodology

9.25 Ecological Impact Assessment (EclA) is based on a number of factors, primarily consideration of the value of a site or feature being assessed, and the anticipated magnitude of the potential effect. SNH and the Institute of Ecological and Environmental Management (CIEEM) have produced guidelines to assist with ecological evaluation and effect assessment (SNH³⁰, 2006³¹; CIEEM 2018²⁶). The assessment of the potential effects of the Development on bird interests is a staged process that involves:

- Determining the nature conservation value of the bird interests present within the survey area that may be affected by the Development;
- Identifying potential effects based on the nature of the construction, operation and decommissioning of the Development;
- Determining the character and magnitude of the potential effects i.e. the size of the change in the population of the receptor as a result of the Development. This includes consideration of the behavioural sensitivity of the receptor and the duration and reversibility of the potential effect;

³¹ SNH (2006). Guidance: Assessing the significance of impacts from onshore windfarms on birds outwith designated areas. SNH, Battleby.

- Determining the significance of the effects based on the interaction between the magnitude of the effect and the nature conservation value of the bird interests likely to be affected. Ultimately, this is a consideration of the effects of the Development on the integrity of a defined population;
- Identifying mitigation measures proposed to avoid, reduce or remedy significant adverse effects; and
- Determining the residual effect significance after the proposed mitigation measures have been implemented, including a description of any legal and policy consequences.

9.26 CIEEM guidance emphasises that quantitative effect descriptions should be used wherever possible. For this reason, a series of tables are reproduced below to define categories of receptor value and sensitivity, effect magnitude and duration. These can then be used to consistently describe potential effects.

Nature Conservation Value

9.27 The nature conservation value of the bird interests present at the Development site are defined according to Table 9.3 (adapted from Percival 2007)³².

Table 9.3: Target Species Flights

Effect magnitude	Description
Very high negative	Very high magnitude effects would result in total or almost complete loss of a population and would result in a permanent adverse effect on the integrity of the population. The conservation status of the receptor would be affected. Guide >80% population affected
High negative	High magnitude effects may include those that result in large-scale, permanent changes in an ornithological receptor, and likely to change its ecological integrity. These effects are therefore likely to result in overall changes in the conservation status of a species population at the location(s) under consideration. Guide 21-80% population affected
Moderate negative	Medium magnitude effects may include moderate-scale permanent changes in an ornithological receptor, or larger-scale temporary changes, but the integrity of the population is not likely to be affected. This may mean that there are temporary changes in the conservation status of a species-population at the location(s) under consideration, but these are reversible and unlikely to be long-term. Guide 6-20% population affected
Low negative	Low magnitude effects may include those that are small in nature, have small-scale temporary changes, and where integrity is not affected. These effects are unlikely to result in overall changes in the conservation status of a species population at the location(s) under consideration, but it does not exclude the possibility that mitigation or compensation will be required. Guide 1-5% population affected
Negligible	There is no perceptible change in the ornithological receptor. Guide: <1% population affected

³² Percival, S.M. (2007). Predicting the effects of wind farms on birds in the UK: the development of an objective assessment method. In de Lucas, M., Janss, G. & Ferrer, M. (eds.) Birds and Wind Power. Lynx Edicions, Barcelona.

Effect magnitude	Description
Positive	The changes in the ornithological receptor are considered to be beneficial.

9.28 In the case of SPAs / SSSIs, magnitude is assessed in respect of the size of the cited population. For non-designated sites, magnitude is assessed in respect of an appropriate scale: the West Central Belt Natural Heritage Zone in the case of resident breeding or wintering populations, or the national (UK) population in the case of migratory wintering populations. The difference in assessing the significance of effects on birds from protected sites and birds from populations without specific designation or protection is one of scale. Designated populations receive stronger protection because threats to the integrity of the designated population are considered significant. Effects on bird populations in the wider countryside are considered significant if they threaten the integrity of the regional or national populations.

Significance

9.29 A significant effect is defined in ecological terms as an effect on the integrity or conservation status of a defined site, habitat or species. The significance of an effect is determined by considering the combination of the nature conservation value of the receptor and the magnitude of the effect and applying professional judgement as to whether the integrity of the receptor will be affected. This concept can be applied to both designated sites (for example, a SSSI) and to defined populations (for example a regional curlew population).

9.30 The term integrity is used here in accordance with the definition adopted by the Circular 06/2005 on Biodiversity and Geological Conservation whereby designated site integrity refers to "...coherence of ecological structure and function...that enables it to sustain the habitat, complex of habitats and/or levels of populations of species for which it was classified". For non-designated sites/species this can be amended to "the coherence of ecological structure and function, that enables it (in this case, the area being considered;e.g. natural heritage zone) to maintain the levels of populations of species in its/their pre-development condition". Integrity therefore refers to the maintenance of the conservation status of a species population at a specific location or geographical scale.

9.31 Effects are more likely to be considered significant where they affect receptors of higher conservation value or where the magnitude of the effect is high. Effects not considered to be significant would be those where the integrity of the receptor is not threatened and are likely to involve effects on receptors of lower conservation value or where the magnitude of the effect is low. Clearly, effects of negligible magnitude, or effects on receptors of negligible conservation value are not considered to be significant.

9.32 Mitigation measures and detailed design work are required to reduce potentially significant effects, but it is also best practice to propose mitigation measures to reduce negative effects that are not significant. In this assessment, an effect that threatens the integrity of a receptor is considered to be significant in terms of the EIA Regulations. Effects assessed as not significant should be considered as not significant in terms of the EIA Regulations. It should be noted that, alongside the criteria provided, professional judgment is applied in determining the significance of potential effect.

- 9.33 An assessment will be made of the potential for cumulative effects on any valued ornithological receptors identified in the assessment in combination with other similar developments within 10 km of the Development site.
- 9.34 Alternative solutions and mitigation will be identified where the assessment indicates that there is a potential significant effect upon important bird species as a consequence of the development. In addition, opportunities to enhance habitats for the benefit of birds will be explored and implemented as part of the development.

Questions for Consultees

- Q9.1: Do consultees agree with the methodology set out?
- Q9.2: Are there any additional sources of baseline information which should be considered in order to inform the appraisal of effects on geology, hydrology and hydrogeology?
- Q9.3: Are there any other potential effects which should be considered?

10 TRAFFIC AND TRANSPORT

Introduction

- 10.1 This chapter of the EIA Report will consider the potential effects associated with increased road traffic generated during the construction phase of the proposed development, including access route(s) and measures to minimise disruption to the local road network and receptors along it.

Baseline Conditions

- 10.2 At the time of writing, other access options as well as the port of entry at Kyle of Lochalsh are still being discussed. However, for the purposes of scoping an access route has been presented below.
- 10.3 The site would be accessed from the A87, with the delivery of turbine components travelling from Kyle of Lochalsh harbour to the north-west of the Site. The A87 is a 60mph road which begins in Invergarry and travels through the Isle of Skye until reaching Uig.
- 10.4 The Study Area to predicate these rules within can broadly be defined as the A87 between Kyle of Lochalsh and Tomchrasky.
- 10.5 The closest publicly available traffic counts from a review of Transport Scotland records is located on the A87 north of Campbeltown at 220000, 810000 (Transport Scotland counter reference 10770³³). This is located approximately 1.5km to north of the proposed site entrance.
- 10.6 With the last count conducted in 2019 there were an estimated 177 Annual Average Daily HGV movements along the A87. Total Annual Average Daily Vehicle movements were calculated at 2,309. HGVs are therefore approximately 8% of traffic flow on 2019 estimates.

Likely Significant Effects During Construction

- 10.7 The most identifiable traffic and transport characteristic associated with wind farm developments is the need to transport the wind turbine components to the site. The turbine components would be transported by sea to a Port of Entry which is expected to be Kyle of Lochalsh Harbour.
- 10.8 The turbine components would then be brought to site by abnormal loads vehicles northwards via the A87 with police escort. It is anticipated that the turbines would follow the following route:
- From harbour at Kyle of Lochalsh to the A87 via the Kyle Prospect Road;
 - Turning left the vehicles will travel west on the A87 for approximately 2.5km (crossing Skye Bridge) to Kyleakin Roundabout, where the transporters will turn right and

³³ <https://roadtraffic.dft.gov.uk/#/6/55.254/-6.053/basemap-regions-countpoints>

continue west for approximately 300m to a turning area before returning to Kyleakin Roundabout;

- The vehicles will then route generally south-east on the A87 for approximately 60km, where the A87 meets the A887 at a T-junction.
- The blade transporters will turn right at the A87/ A887 junction to stay on the A87 and will proceed for approximately 1km before turning right into the site.

10.9 A Swept Path report and model has been provided by Systra Ltd to assess the impact of the road network to accommodate the delivery of appropriately sized abnormal loads vehicles. Necessary third-party land would be subject to further commercial negotiation should it not already be under option.

10.10 There is also a need to transport general construction material to the site, such as cabling, aggregates, concrete, pipes, etc. These will be transported in standard Heavy Goods Vehicles (HGVs), leading to a temporary intensification on the road network, depending upon the scale of development, final material requirements, final sourcing of materials and final construction phasing plan, all of which are not known at this time. A small quantity of traffic would also be generated via workers travelling to site throughout the construction period.

10.11 Guidance for the assessment of the environmental effects of traffic is presented within the IEMA document 'Guidelines for the Environmental Assessment of Road Traffic'. This document is the only guidance document available that sets out a methodology for identifying significant environmental effects where a proposed development is likely to give rise to changes in traffic flows.

10.12 The guidance states that in order to determine the scale and extent of impact the following two rules should be used in order to identify road links within the study area where a full assessment will be required:

- Rule 1 – include highway links where flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- Rule 2 – include any other specifically sensitive area where traffic flows are predicted to increase by 10% or more.

10.13 The Study Area to predicate these rules within can broadly be defined as the A87 between Kyle of Lochalsh and Tomchrasky. Accordingly, Rule 1 above is likely to be the only element of the IEMA Guidelines which requires to be considered.

Likely Significant Effects during Operation

10.14 Asides from occasional maintenance vehicles to service the wind farm, the operational phase is not considered likely to incur a significant increase in traffic.

10.15 It is therefore likely that no significant effects will occur during operation and for this reason, operational traffic is scoped out of the EIA Report.

Design and Mitigation

- 10.16 It is sometimes possible to mitigate likely significant effects, in this case construction effects, via project design. In this instance this equates to the phasing of development. Whilst the construction phase is yet to be determined, along with sources of materials required, this is difficult to provide at this stage. Construction phasing will be subject to a Construction Environmental Management Plan (CEMP) whilst vehicle movements to and from the site would be controlled via Traffic Management Plan (TMP), the details of both would likely be agreed via post-consent conditions.
- 10.17 Accordingly for construction traffic, there is no known design or mitigation that would prevent potential significant effects at this stage in the project.

Inclusion or Exclusion from the EIA Report

- 10.18 Based on the above, construction traffic will be scoped into the EIA Report, whilst operational traffic is scoped out.

Proposed Scope of Assessment

- 10.19 It is proposed to discuss the detailed scope of the transport assessment directly with The Highland Council Roads Department and with Transport Scotland. It is currently proposed that the assessment would include the following key elements:
- Finalisation of an Abnormal Loads Assessment to confirm the proposed route to site from Kyle of Lochalsh to the site access point;
 - Obtain existing ATC data for the three trunk roads within the vicinity of the site from the Transport Scotland database;
 - Calculation of increased traffic generation on the surrounding road network during construction of the wind farm based on material and staffing requirements and comparison to the baseline situation;
 - Assessment of the environmental effects of increased traffic generation on the surrounding road network that is likely to be used during construction, including related to noise, severance, driver delay, pedestrian delay, pedestrian amenity, accidents and safety, hazardous loads and dust and dirt; and,
 - Assessment of the effects associated with increased traffic.
- 10.20 The assessment of construction traffic would be provided in terms of sensitivity of the road network and the magnitude of effect, in order to then provide a professional judgement of effect and its significance.
- 10.21 Sensitivity of receptor can generally be considered in terms of assessing the residual capacity of the network under existing road and traffic conditions by examining the capacity of the road compared to its use.
- 10.22 Magnitude of effect is a product of the existing traffic volumes, the percentage increase and change due to the proposed development, changes in the type of traffic and the temporal distribution of traffic. Significance of effect will be then assessed using IEMA

guidelines and professional judgement on a scale of major, moderate, minor and negligible, or an intermediate category between these. Effects judged to be moderate or major would generally be considered significant, with those falling underneath this not significant.

- 10.23 It is not anticipated that a formal Transport Assessment (TA) will be required as TAs are not generally considered necessary for temporary construction works. The likely traffic movements associated with the operation of the wind farm are also not considered high enough to warrant a TA.
- 10.24 Any significant cumulative traffic impacts associated with other developments commencing in tandem with the proposed development would also be considered.
- 10.25 Where significant effects are identified, measures to prevent, reduce and, where possible, offset those adverse effects will be proposed. Measures likely to be utilised include:
- Instructing abnormal loads and HGVs, including site personnel as appropriate, to use only the approved access route(s) to the Site.
 - No parking of construction plant, equipment and vehicles off-site on public highways.
 - Establishing a construction traffic management plan for the development which could be secured via a suitably worded planning condition.

Questions for Consultees

- Q10.1: Do the consultees agree that the proposed methodology is acceptable?
- Q10.2: Can the consultees confirm which developments should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of scoping?
- Q10.3: Can the consultees confirm details of any upgrades or network changes that may be undertaken to the study area network within the next five years?

11 GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

Introduction

- 11.1 This section of the report sets out the proposed approach to the assessment of the potential impacts of the proposed development on soils, geology and the water environment during construction and operation of the proposed development.
- 11.2 This section of the Scoping Report should be read alongside section 8 for reference to the cross-linkages between the hydrological environmental and terrestrial ecology related to groundwater dependent terrestrial ecosystems (GWDTEs) and the assessment methodology linked to them.

Baseline Conditions

Geology

- 11.3 A review of British Geological Survey (BGS) online 'Geology of Britain viewer' demonstrates that the site is underlain by metamorphic bedrock of the Loch Eil Group, which comprises psammite and micaceous psammite formed approximately 541 to 1,000 million years ago. This rock was originally sedimentary in origin, forming in deep seas, and has subsequently undergone metamorphic change.
- 11.4 Superficial geology across the Site comprises Hummocky (moundy) Glacial Deposits which are formed of Diamicton, Sand and Gravel. These deposits were formed up to 3 million years ago in the Quaternary Period with the local environment previously dominated by ice age conditions at the time.
- 11.5 A review of SNH's Carbon and Peatland 2016 Map ³⁴suggests that the site is partially comprised of a mix of Class 2 and Class 3 peatland, particularly at lower elevations in the centre of the Site and areas towards the shores of Loch Loyne. As the topography increases, peat slowly transitions to mineral soils.
- 11.6 At the time of writing, a Phase 1 peat survey is currently being carried out. As such, peat depths across the Site are currently unknown however this will be presented in detail within the EIA Report.

Hydrology

- 11.7 The site is drained from east to west by Allt Coire na Creadha and associated drainage channels eventually draining into Loch Loyne. Smaller unnamed watercourses also run across the Site and drain into the two lochs, Loch Cluanie and Loch Loyne, which contain the Site. Both Loch Cluanie and Loch Loyne form part of the SSE Great Glen Hydroscheme³⁵, with both dams constructed in 1956. Both are described, according to

³⁴ https://map.environment.gov.scot/Soil_maps/?layer=10#

³⁵ <https://www.sserenewables.com/hydro/great-glen/>

SEPA's River Basin classification system, as heavily modified water bodies of 'good' ecological status (2018)³⁶.

- 11.8 Other prominent watercourses which lie in close proximity to the Site include the River Moriston to the north and the River Loyne to the north-west.
- 11.9 The SEPA Indicative Flood Map suggests that Allt Coire na Creadha, which lies within the Site boundary is considered to be at high risk of flooding. Additionally, Loch Loyne and Loch Cluanie are also classified as high risk.
- 11.10 In likelihood, the extent of flooding would be isolated along this watercourse and overall flood risk across the site and related to the proposed development is accordingly low due to the topography of the site.
- 11.11 Under the Private Water Supplies (Scotland) Regulations 2006, Local Authorities have a duty to hold data on private water supplies (PWS) in their area and monitor the quality of supply. An initial review of PWS in the area indicates that the closest PWS is located at Bun Loyne, approximately 4km away from the nearest turbine³⁷.
- 11.12 Given the distance between the proposed development and Bun Loyne, any significant effects upon PWS are considered to be unlikely. However, further consultation will be carried out with the Highland Council, Scottish Water and SEPA to in respect of PWS to determine if further investigation is needed.

Hydrogeology

- 11.13 A review of the open-source Scotland's Environment Map indicates that the site is characterised as a low productivity aquifer (class 2C), meaning that flow is virtually all fractures and other discontinuities, and small amounts of groundwater will be apparent in near surface weathered fractures.
- 11.14 GWDTEs are not known at this stage as National Vegetation Classification Surveys have not yet been carried out (and will be carried out following final infrastructure design freeze).

Likely Significant Effects During Construction

- 11.15 Potential significant effects on geology, hydrology and hydrogeology will be assessed as part of the EIA process.
- 11.16 Potential significant effects upon the geological resource during construction are likely to be confined to impacts on peat, both as a soil and carbon resource. Effects may relate to excavation and reuse of peat and changes to the hydrological function of the peatland, both in relation to the peat soils and in relation to drainage from the site (runoff rates and volumes). As such, there is potential for construction induced peat landslides and mineral soil slides with associated sediment release to watercourses.

³⁶ <https://www.sepa.org.uk/data-visualisation/water-classification-hub/>

³⁷ <https://map-highland.opendata.arcgis.com/>

- 11.17 Potential significant effects on hydrology may occur in association with increases to sediment, suspended solids and/or pollutants entering surface water flowpaths, and potential alterations of flow of tributaries to the Allt Coire na Creadha causing increased downstream impact via water quality and/or flood risk. Any potential PWS in the area may be impacted via disturbance to or pollution of the source.
- 11.18 Potential impacts upon hydrogeology include pollution of groundwater via spillages or accidental releases during construction, and temporary alteration to the groundwater regime including potentially adverse effects upon GWDTes.

Likely Significant Effects during Operation

- 11.19 Potential significant effects related to the geological resource during operation include long term loss of bedrock or superficial geology due to excavation for the footprint of the proposed development, or peat landslides following peat works and reinstatement.
- 11.20 Potential significant effects could occur in the absence of mitigation upon surface water hydrology given potential amendments to the catchment via watercourse crossings or other infrastructure.
- 11.21 Potential significant effects related to hydrogeology during operation include potential localised alteration to groundwater due to turbine base structures and wind farm infrastructure, via reduced groundwater flow to the vegetation. Significant effects may also arise via potential contamination of groundwater by leachable contamination from imported fill materials, or a reduction in infiltration caused by increased hardstanding.

Design and Mitigation

- 11.22 The majority of mitigation measures for potential effects on geology, hydrology and hydrogeology will be embedded into the design process. The preliminary turbine layout has already been optimised to maintain distance from watercourses and avoid steep topography on the sides of the glen. Other sensitive receptors, including peatland habitats will be mapped in more detail as part of the EIA in order to minimise overlap with the most sensitive habitats.
- 11.23 To address potential localised flooding issues, infrastructure has been designed to be outwith a 50m buffer of the centre point of that watercourse. Therefore, any significant effects as a result of flood risk have been designed out. Any watercourse crossings would be designed in accordance with good practice.
- 11.24 The deepest peat on the Site will be avoided by way of embedded design. Floating roads will be employed where beneficial and where safe to do so (noting that the site is locally steep on valley sides). A borrow pit, if possible, would be designed in the least intrusive area, otherwise all materials will be imported to site.
- 11.25 Once NVC surveys have been carried out, impact upon any likely GWDTes and priority peatland habitats will be minimised via design iterations.

- 11.26 A Construction Environment Management Plan (CEMP) would be put in place to control construction techniques and minimise the likelihood of pollution events. This would include a Clerk of Works role whereby construction would be overseen by a qualified professional.
- 11.27 A Peat Management Plan (PMP) would also be prepared as part of the application and put in place post-consent to control the management and re-use of peat on site. Opportunities to undertake ditch blocking and site restoration will be considered within the Habitat Management Plan or by enhancement of the PMP.

Inclusion or Exclusion from the EIA Report

- 11.28 Given the known baseline at this stage and likely residual significant effects when considering embedded mitigation and good practice mitigation, it is proposed that the following is scoped in and out from the EIA Report.
- 11.29 Consideration of peat, including Phase 2 probing, a Peat Management Plan, a Peat Landslide Risk Assessment and incorporation of peat information in a Carbon Balance Assessment will be scoped into the EIA. Therefore, superficial geology is scoped into the EIA Report.
- 11.30 Significant adverse effects upon bedrock geology are not expected but given the potential requirement for an on-site borrow pit(s), bedrock geology is scoped into the EIA.
- 11.31 Impacts upon PWS are unlikely to be significant given the separation between the turbines and Bun Loyne. However, further consultation will be carried out to determine if further investigation is needed and is therefore scoped in to the EIA.
- 11.32 Effects related to flood risk are unlikely to be significant as the proposed development and its infrastructure are unlikely to impact upon flood risk during construction, provided appropriate construction techniques are put in place and suitable watercourse crossings are provided.
- 11.33 This would be the subject of the post-consent CEMP and the infrastructure design accordingly and consultation would be sought with the Council and SEPA.
- 11.34 Provided best practice measures are adhered to and controlled via a CEMP, water quality would be scoped out by virtue of adverse significant effects being unlikely. Water quality is unlikely to be adversely affected during operation.
- 11.35 GWDTEs are not known at this stage and for this reason, hydrogeology will be scoped into assessment along with the potential for interaction between peat, hydrology and ecological assessments.

Proposed Scope of Assessment

Hydrology

- 11.36 The baseline section above will be expanded following a desk study and hydrological walkover to validate baseline characteristics through the review of relevant and available information relating to soil, geology and water.
- 11.37 This will include review of information held by SEPA, NatureScot, Scottish Water and THC, such as groundwater resources, licensed and unlicensed groundwater and surface water abstractions, surface water flows, flooding, rainfall data, and water quality and soil data. The desk study will identify sensitive features which may potentially be affected by the proposed development. An additional review of published geological maps, OS maps, aerial photographs and Site-specific data such as site investigation data, geological and hydrological reports, digital terrain models (slope plans) and geological literature will also be carried out.
- 11.38 A walkover site visit will also be undertaken to identify site constraints and verify the presence or absence of receptors. Detailed site observations will be recorded.

Geology

- 11.39 Geomorphological walkover as part of the Peat Landslide Hazard and Risk Assessment and further peat probing will inform layout design, further optimising the existing turbine layout, hardstanding locations and associated track routing and alignment. Following design of the full layout, Phase 2 peat probing will be undertaken to identify opportunities for micro-siting and enable subsequent calculation of peat excavation volumes for the design-freeze.
- 11.40 A Peat Slide Risk Assessment (PSRA) will be carried out in accordance with the Scottish Government Peat Landslide Hazard & Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Scottish Government, 2017). The PSRA will be informed by information gathered from peat depth models, site walkovers and detailed geomorphological mapping and terrain classification. The assessment will utilise a combined qualitative (contributory factor) and quantitative (factor of safety) approach to assess the likelihood of peat landslides, the consequences should peat landslide occur, and appropriate mitigation measures based on calculated risk levels.
- 11.41 A Peat Management Plan (PMP) will be prepared in accordance with 'Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste' (Scottish Renewables, SEPA, 2012). The PMP will be informed by peat depth probing as described above, and by a full site appraisal of potential re-use opportunities. Where opportunities are identified to integrate the PMP with wider environmental enhancement measures, for example drain blocking to raise watertables and support blanket bog habitats (where present), the PMP will indicate the volume and type of peat to be used for this activity.

Hydrogeology

- 11.42 Liaison would also be undertaken with team members involved in the ecology assessment to identify the presence of priority peatland habitats and potential impacts on GWDTs. If significant areas of moderate or high GWDTs are located in proximity to proposed infrastructure, additional studies would be undertaken to define whether these are truly groundwater dependent, define their extent, and subsequently design around them or provide reasoned justification for why they cannot be avoided.

Questions for Consultees

- Q11.1: Do the consultees agree on the scope for the EIA Report?
- Q11.2: Do the consultees agree on the surveys set out within the Scoping Report?
- Q11.3: Are there any additional sources of baseline information which should be considered in order to inform the appraisal of effects on geology, hydrology and hydrogeology?
- Q11.4: Are there any other potential effects which should be considered?

12 CULTURAL HERITAGE

Introduction

- 12.1 This section of the Scoping Report will assess the likely direct and indirect impacts on both designated and non-designated heritage assets within the Site boundary and within the surrounding area.

Baseline Conditions

- 12.2 An initial desk-based study of cultural heritage records has been carried to inform likely significant effects in the vicinity of the proposed development. A Study Area of 10km from the site boundary has been included as good practice, given significant effects are unlikely to occur outside of this radius.
- 12.3 There are no designated heritage assets within the site boundary, however there are four Scheduled Monuments which lie within 10km from the site boundary, as set out in Table 12.1 below:

Table 12.1: Scheduled Monuments within 10km from the Site Boundary

Name	Scheduled Monument Number	Eastings	Northings
Fort Augustus-Benera Military Road, 1890m W of Ceannacroc Lodge	SM11484	219113	810978
Balnacarn, township 550m WSW of	SM11482	226836	812964
Fort Augustus-Benera Military Road 570m SE of Achlain	SM11483	228437	812060
Tir nan Og, cairn 445m SSW of	SM11494	228553	812231

- 12.4 There are four Listed Buildings within the Study Area, one which is Category B and three of which are Category C within 10km of the Site Boundary. There are no Category A Listed Buildings which fall within the Study Area.
- 12.5 A search of PastMap indicates that there are multiple non-designated Historic Environment Records and Canmore records such as the post-medieval Drumrunie Lodge (MHG21577), which lies within the Site boundary. These include bridges, an abandoned property and settlement, and dams.
- 12.6 These non-designated assets encompass a range of monument types and periods but are generally considered to be of local significance. It is proposed that a study area within 5km of the Site boundary is included for assessing impact to non-designated heritage assets alongside potential direct effects within the Site boundary.

Likely Significant Effects During Construction

- 12.7 Significant effects during construction are related to direct impacts, such as physical alteration or destruction, upon unscheduled remains.
- 12.8 Direct impacts would involve physical alteration or destruction of heritage assets as a result of the construction, operation or decommissioning of the wind farm. Such direct impacts could result from the construction of turbine and crane bases, new or upgraded access tracks, substations, transformers, cables etc.
- 12.9 However, an initial review indicates that the Site is steep and generally inhospitable to settlement remains beyond possible shieling huts which would be located in close proximity to waterways. The archaeological potential is considered low with limited settlement generally in the wider areas, where it is concentrated around the lochs and main watercourses at lower elevations.
- 12.10 Taking this into consideration, significant direct effects upon heritage assets at the construction stage are considered to be unlikely and are scoped out.

Likely Significant Effects during Operation

- 12.11 The proposed development has the potential to affect the setting of designated heritage assets including the Scheduled Monuments described within the baseline section above given the close proximity of these assets.
- 12.12 The proposed development may also have a significant effect upon the inter-relationship between Scheduled Monuments.

Design and Mitigation

- 12.13 A review of the treatment of cultural heritage both within the EIA and within the Decision Notice was undertaken for the nearby consented Millennium South and operational Beinneun Extension Wind Farms, where possible. It was noted that the impacts upon the Scheduled Monuments listed above were not deemed to be unacceptable, nor was there specific mitigation to ameliorate any operational impact.
- 12.14 Where adverse effects to assets within the Site are identified, measures to avoid, reduce and/or offset these effects will be proposed. During construction, a Construction Environmental Management Plan would contain provision for protocols should unscheduled remains be found.
- 12.15 The design of the proposed development has also aimed to place turbines as sensitively as possible, using topography to assist in screening operational effects.

Inclusion or Exclusion from the EIA Report

- 12.16 Based on the above, it is proposed that based upon the lack of likely significant effects as a result of construction, construction effects are scoped out. Mitigation measures to

prevent direct effects would be set out in full as part of a CEMP which would form a condition of consent.

- 12.17 Significant effects upon cultural heritage assets during operation require to be examined further, and are therefore scoped in.

Proposed Scope of Assessment

- 12.18 The scope of the assessment will consider setting effects during operation.
- 12.19 A desk-based assessment (DBA) would expand upon the initial baseline section provided above and would identify and describe all cultural heritage assets within a 5km radius of the site. The DBA would be based on a study of all available document sources following CifA Standards and Guidance 2014 and would also be informed by a walkover of the site and setting visits to particular viewpoints in the wider study area.
- 12.20 Field surveys to identify and record the baseline character and condition of any heritage assets within the proposed site will be undertaken in addition to site visits to heritage assets in the wider landscape for the purpose of assessing potential impacts on their settings including cumulative impacts.
- 12.21 The DBA would aim to identify any impacts which will affect the cultural significance of an asset, particularly where key characteristics will be affected. The DBA will also identify any areas of uncertainty where potential effects cannot be predicted. Where any areas of uncertainty are identified the DBA would propose further works that may assist in resolving such uncertainty.
- 12.22 Heritage assets are assessed in terms of their cultural significance and importance. The importance of a heritage asset is the overall value assigned to it based on its cultural significance, reflecting its statutory designation or in the case of undesignated assets, the professional judgement of the assessor.
- 12.23 The EIA methodology would follow the outline methodology below:
- Desk-based study leading to the identification of heritage assets potentially affected by the proposed development;
 - Definition of baseline conditions based on results of the desk based study and site visits;
 - Assessment of the importance of heritage assets potentially affected by the proposed development;
 - Identification of potential impacts upon heritage assets, informed by baseline information, site visits, ZTV mapping, wireframes and photomontages;
 - Proposal of mitigation measures to eliminate, offset or reduce adverse effects;
 - Assessment of the magnitude of residual effects;
 - Assessment of the significance of residual effects, broadly a product of the asset's importance and the magnitude of the impacts; and
 - Assessment of cumulative effects.

Questions for Consultees

- Q12.1: Can the consultees confirm that the proposed study areas and methodology are appropriate?
- Q12.2: Are there additional sources of baseline information which should be used to inform the assessment of effects upon cultural heritage?
- Q12.3: Are there any other heritage assets which should be included within the impact assessment?

13 POPULATION AND HUMAN HEALTH

Introduction

13.1 Since the introduction of the amended EIA Regulations in 2017, there has been an additional requirement to assess population and human health. Relevant to proposed development, the potential effects upon population and human health can be considered in the following terms:

- Impact of the proposed development upon population trends in the area;
- Impact of the proposed development upon wealth and prosperity in the area, including job creation and/or loss;
- Impact of the proposed development upon recreational pursuits;
- Impact of the proposed development upon human health in terms of pollution, amenity and direct impacts.

Baseline Conditions

13.2 The study area used for the identification and evaluation of baseline conditions and potential impacts with regard to socio-economic factors is defined as the Highland Council (THC)

13.3 Data collected from the 2011 Census estimated the population of the Highlands as a Local Authority at 232,132, with National Records of Scotland Mid-Year Population Estimates projecting a higher figure of 235,830 in 2019. The Highland Council (THC) had the 7th highest population in 2019, out of all 32 council areas in Scotland, with an average population density of 8 persons per square kilometre³⁸.

13.4 In terms of economy, sectors which the population are noticeably more employed in compared to the Scottish average, include agriculture, forestry and fishing (11.8% compared to 3.2%), accommodation and food services (10% compared to 7.9%). This suggests that the local economy is more reliant on forestry, agriculture and tourism than other parts of Scotland³⁹.

13.5 In terms of recreation, given that the summit of Beinn Loinne is located within the Site, it is likely that this will attract recreational users. However, given its rural location, visitors are likely to be infrequent. There are no Core Paths within the Site or on its boundaries.

13.6 The surrounding areas contain several high peaks which are likely to be popular with walkers.

³⁸https://www.highland.gov.uk/info/695/council_information_performance_and_statistics/165/highland_profile_-_key_facts_and_figures

³⁹ <https://www.hie.co.uk/research-and-reports/our-reports/2019/november/21/highlands-and-islands-area-profiles-2019/>

Likely Significant Effects During Construction

- 13.7 Significant effects during construction would be related to economic benefits associated with local contracts in the construction of the wind farm. Where possible, Energiekontor tender and award contracts to local companies across elements of construction and associated services.
- 13.8 It is not anticipated there would be any significant effects upon recreation via construction, as typically these would be associated with temporary closures. Turbine vehicles would move at night therefore limiting any obstructions to tourist traffic, whilst other HGVs would be controlled via a Traffic Management Plan.

Likely Significant Effects during Operation

- 13.9 Likely significant effects during operation include proceeds from a community benefit package which has the potential to greatly aid local causes such as community schemes, facilities, sports clubs, arts, culture and recreational pursuits.
- 13.10 Socio-economic impacts associated with wind farm developments primarily relate to job creation, use of local services and income spent in the locality of a project. This section of the EIA will therefore consider and assess the likely impacts of the proposed development on the economic profile of the area, including short term job opportunities, and outline these accordingly.
- 13.11 Impacts upon tourism will be considered given the proximity of the Kintyre Way and local aspirations of maintaining and growing tourism.

Inclusion or Exclusion from the EIA Report

- 13.12 It is considered that significant impacts upon recreation are unlikely during construction given the location of the site and its' land cover.
- 13.13 Human health would not be directly affected by the proposed development during construction or operation given the nature of the proposed development and its rural location. Factors indirectly associated with human health such as visual impact or noise would be dealt with in the respective chapters as already outlined.
- 13.14 There is potential for significant positive socio-economic effects both in construction and operation. A socio-economic assessment would be included.
- 13.15 There is also potential for significant effects in relation to tourism and recreation during operation of the proposed development, and therefore both are scoped into assessment.

Proposed Scope of Assessment

- 13.16 The EIA will consider the effects of the proposed development on employment and the economy. This will include the employment opportunities for local suppliers with relevant construction and maintenance experience during the construction and operational phases of the development. The EIA Report will focus on short- and long-term employment

opportunities and input from the proposed development into the local economy (expenditure in shops / local services etc.).

- 13.17 Potential effects upon tourism and recreation and land management practices would be considered within the assessment.
- 13.18 There is no established guidance for conducting a socio-economic assessment as part of the EIA process. It is therefore proposed that the assessment uses desk-based information sources to assess the likely scale of effects, supplemented by consultation with local stakeholders.
- 13.19 Cross reference would be made to other technical assessments to consider potential effects on recreational assets and other leisure and tourism attractions in the surrounding area, for example due to visual impact, traffic, and noise.

Questions for Consultees

- Q13.1: Are there any other relevant consultees who should be consulted with respect to the assessment of effects on population and human health?
- Q13.2: Are there any other factors which should be taken into consideration in the assessment of effects upon population and human health?

14 FORESTRY

Introduction

- 14.1 With forestry present throughout the Site, it will be necessary for the EIA Report to assess the impacts of the construction and operation of the proposed development on forestry assets.

Baseline Conditions

- 14.2 The Site is located within Bunloinn Forest with woodlands predominately comprising of commercial forestry. There is an Area of Ancient Woodland Inventory which lies in the northern section of the Site.
- 14.3 Existing forestry records will be analysed and augmented as required through further survey and assessment to document the full detail of existing and proposed forestry across the Site. A forestry baseline survey will be prepared to describe the crops existing at the time the EIA Report is prepared, including detailed information on species, planting year and restocking design proposals within any existing and agreed forestry plans.

Likely Significant Effects During Construction and Operation

- 14.4 Areas of woodland will need to be felled for the construction and operation of the wind farm, including access tracks, turbine locations and other infrastructure. However, this is only currently affected from a small number of proposed turbines.
- 14.5 Further woodland may need to be felled for wind yield and other technical reasons however this is not currently known.
- 14.6 The structure of the woodlands may therefore change, resulting in a potential loss of woodland area. This will be addressed through the redesign of the existing forest including, for example, the use of designed open space or alternative woodland types or the provision of compensatory woodland planting on an alternative site.
- 14.7 It is currently anticipated that 100m keyhole felling will be undertaken around the necessary turbine foundations, and existing access tracks will be utilised where possible to reduce the volume of felling.

Design and Mitigation

- 14.8 There is a presumption against permanent woodland removal within the UK unless it addresses other environmental concerns or delivers additional and clearly defined public benefits. The Scottish Government's "Control of Woodland Removal Policy" records the assessment requirements and compensatory measures which should be considered when removing woodland cover and the requirements under this policy will be addressed within the EIA Report.

Proposed Scope of Assessment

- 14.9 The purpose of the assessment will be to:
- Confirm the present age and species structure of the forestry crops;
 - Analyse the impact on existing and proposed Forestry Plans of any necessary tree removal to facilitate the proposed development;
 - Identify any measures necessary to mitigate the impact of the Proposed development on existing forestry crops.
- 14.10 Scottish Forestry will be consulted on the development of the proposals relating to the restructuring of the forestry cover as a consequence of the development to ensure that the proposed changes to the existing forestry crops are appropriate and suitably address the requirements of the Control of Woodland Removal Policy.
- 14.11 The forestry proposals will be prepared in accordance with the current industry best practice and guidance.
- 14.12 The forestry report will be presented within a chapter of the EIA Report documenting the timing and extent of area of woodland to be felled during the life of the proposed development and an overview on forestry waste. It will also include restocking proposals to illustrate areas which would be replanted during the life of the wind farm.
- 14.13 The changes to the woodland structure will be analysed and described in relation to species composition, age class structure, commercial timber production etc. with supporting text, tables, diagrams and maps as necessary.
- 14.14 Any wider effects of forest felling and restocking will be assessed in the relevant chapters of the EIA Report as described in the other sections of this document.

Questions for Consultees

- Q14.1: Are there any other relevant consultees who should be consulted with respect to the assessment of effects on forestry?
- Q14.2: Are there any other factors which should be taken into consideration in the assessment of effects upon forestry?

15 OTHER ISSUES

15.1 This section of the EIA Report will consider the following topics:

- Climate Change
- Air Quality
- Ice Throw
- Major Accidents and Disasters
- Radio-Communications and Television
- Aviation
- Shadow Flicker

Climate Change

15.2 By its very nature, the proposed development will reduce demand for fossil fuel electricity generation and contribute to the Scottish Government's carbon reduction targets. This positive effect will be given further consideration in the EIA.

15.3 With respect to climate adaptation, consideration will also be given to the resilience of the wind farm to projected climate change and to the likely consequences of climate change for baseline conditions/assessment findings, and the resilience of proposed mitigation measures to any projected changes. The latest climate change projections will be used, which allow climate changes to be projected at the regional level.

15.4 Given the location of the site and its peat cover, a carbon calculator in line with latest Scottish Government guidance (2018) would be scoped in and completed.

Air Quality

15.5 There is one active air quality monitoring site and one Air Quality Monitoring Area (AQMA) within the Highlands, both of which are located in Inverness. However, the proposed development lies approximately 62km to the south-west of Inverness and is unlikely to impact air quality.

15.6 The potential effects associated with air quality during construction and decommissioning are the effects of dust associated with construction and decommissioning activities and the effects of emissions arising from construction traffic on local air quality.

15.7 No adverse air quality impacts are anticipated from the operation of the proposed development given the rural nature of the site and the distance from sources of air pollution. Additionally, due to the short term, temporary nature of the construction and decommissioning phases, it is proposed that air quality is scoped out of the EIA Report.

15.8 Potential impacts on air quality from dust during the construction and decommissioning phases will be addressed through standard mitigation techniques to be agreed as part of

a Construction Environmental Management Plan (CEMP) post-consent. No further specific assessment is proposed.

Ice Throw

- 15.9 During icing conditions there are two types of risks associated with ice collecting on turbines:
- Fragments are thrown off from the operating turbine due to aerodynamic and centrifugal forces; or
 - Ice falls down from the turbine when the blades are stationary.
- 15.10 Given the remote location of the proposed development, ice throw affecting members of the public is considered to be extremely low.
- 15.11 In addition, public notices would be placed at access points alerting members of the public and staff accessing the site, of the possible risk of ice throw under certain weather conditions. It is therefore proposed that an assessment of ice throw is scoped out of the EIA.

Major Accidents and Disasters

- 15.12 The proposed development is not located in an area with a history of natural disasters such as extreme weather events, and the construction and operation of the proposed development would be managed within the requirements of a number of health and safety related Regulations, including the Construction (Design and Management) Regulations 2015 and the Health and Safety at Work etc. Act 1974.
- 15.13 As the development is not considered vulnerable to any major accidents or disasters that could result in likely significant environmental effects, it is proposed that this topic is scoped out from further assessment within the EIA Report.

Radio-communications and Television

- 15.14 Wind turbines can cause electromagnetic interference through physical and electrical interference. Physical interference can cut across electromagnetic signals resulting in a 'ghosting' effect which largely affects television signals and radar. Electrical interference arises as a result of the operation of the generator within the nacelle of the turbine and can also affect communication equipment in proximity to the turbines. Where possible, any potential effects on radio-communication links and television will be mitigated at the turbine layout design stage by the use of exclusion zones around any link paths.
- 15.15 The Office of Communications (Ofcom) is responsible for the licensing of two-way radio transmitters. It holds a register of most microwave links and will therefore be consulted in order to establish baseline conditions. However, because not all microwave links are published, system operators will also be individually consulted on the proposed development's potential to cause electromagnetic interference. The outcome of this consultation process, including any mitigation actions taken, will be detailed in the EIA Report.

Aviation

- 15.16 The EIA Report will include a description of military and civilian aeronautical and radar issues relating to the proposed development. Consultation will be undertaken once the locations of the turbines have been finalised with the aviation consultees. The EIA Report will present the findings of these consultations and all responses received, as well as any predicted impacts on aviation and mitigation required.
- 15.17 It is acknowledged that turbines over 150m in height are currently subject to fixed aviation lighting. The Civil Aviation Authority requires that all perimeter turbines must be lit unless removing one will leave a gap of 900m between the remaining turbines, any unlit turbines do not exceed a 10-degree slope from adjacent lit turbines, and that any turbine within 200m of a string perimeter is lit unless the distance between adjacent turbines is less than 900m total. It is also acknowledged that infra-red lighting will be required.
- 15.18 An aviation lighting report will be commissioned to inform the LVIA and to provide a CAP 764 compliant layout which the CAA and MoD can support. It will provide the rationale behind the lighting design and also a detailed assessment of the brilliance of the lighting from a number of viewpoints and an assessment of historic meteorological data from which to predict the luminous intensity requirements for the lights, and the associated experience for receptors at viewpoints.
- 15.19 The Other Issues chapter will report on the outcomes of aviation related consultation and provide a description of the measures taken to mitigate against any potentially adverse effects.

Shadow Flicker

- 15.20 Shadow flicker is a phenomenon where, under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. It only occurs inside buildings where the flicker appears through a narrow window opening.
- 15.21 A shadow flicker assessment is generally required if any properties lie within 10x rotor diameter of the wind farm and within 130 degrees either side of north. This is in line with Scottish Government online renewables planning advice on 'onshore wind turbines' which states that *"where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), 'shadow flicker' should not be a problem."*
- 15.22 With tip heights between 200m and 230m, candidate turbine specifications suggest a likely rotor diameter of 155m. Applying a 10-rotor diameter distance within a 130-degree arc of north from each turbine gives an allowance of 1550m where effects may occur.
- 15.23 The closest property, Bun Loyne, lies approximately 4km from the nearest turbine. When taking this into consideration, it is unlikely that significant effects would occur. As such, it is proposed that shadow flicker is scoped out from the EIA Report.

Questions for Consultees

- Q15.1: Are there any other relevant consultees who should be consulted with respect to the 'Other Issues' assessments?
- Q15.2: Are there any other factors which should be considered in the assessment of Other Issues?

16 CONTENT AND STRUCTURE OF THE EIA REPORT

16.1 Following the rationale set out in the above sections, it is proposed that the final EIA Report contains the following chapters:

- Chapter 1: Introduction
- Chapter 2: EIA Methodology
- Chapter 3: Project Description
- Chapter 4: Design Evolution
- Chapter 5: Renewable Energy and Planning Policy
- Chapter 6: Landscape and Visual
- Chapter 7: Terrestrial Ecology
- Chapter 8: Ornithology
- Chapter 9: Geology, Hydrology and Hydrogeology
- Chapter 10: Traffic and Transport
- Chapter 11: Noise
- Chapter 12: Cultural Heritage
- Chapter 13: Population and Human Health
- Chapter 14: Forestry
- Chapter 15: Other Issues
- Chapter 16: Schedule of Mitigation

16.2 These chapters will be supported by supplementary volumes containing all relevant figures, technical appendices and visualisations. A standalone Non-Technical Summary (NTS) will also be provided. These will be structured as follows:

- Volume 1: Written Statement
- Volume 2: Figures
- Volume 3: NatureScot Visualisations
- Volume 4: Technical Appendices
- Volume 5: THC Visualisations

16.3 For the avoidance of doubt, the environmental topics highlighted above are those which to be scoped into the EIA Report. Those which will be scoped out of full assessment are:

- Noise - amplitude modulation, vibration, construction and decommissioning noise
- Traffic and Transport – operational traffic
- Hydrology, Geology and Hydrogeology – water quality
- Cultural Heritage – construction effects
- Population and Human Health – human health
- Other Issues – major accidents and disasters, air quality, ice throw, shadow flicker

16.4 We would welcome comment on the proposed scope and methodologies contained within this Scoping Report from all consultees and look forward to a collaborative EIA process. If you wish to discuss any aspect of this Scoping Report, please contact:

- Lauren Mallon, Project Manager, Energiekontor UK Ltd,
lauren.mallon@energiekontor.com

Appendix 1: Figures

Appendix 2: Indicative Landscape and Visual Wirelines

Appendix 3: Consultee List

Consultee
Statutory Consultees
Energy Consents Unit (Scottish Ministers)
The Highland Council (and relevant internal teams)
Historic Environment Scotland
NatureScot
SEPA
Community Councils
Fort Augustus and Glenmoriston (Host community council)
Lochduich (Neighbouring community council)
Glangarry (Neighbouring community council)
Non-Statutory Consultees
British Horse Society
BT
Civil Aviation Authority (CAA)
Crown Estate Scotland
Defence Infrastructure Organisation (MoD)
Scottish Forestry
Ness District Salmon Fisheries Board
Fisheries Management Scotland
Ness and Beaully Fisheries Trust
Highlands and Islands Airport Ltd (HIAL)
John Muir Trust
Joint Radio Company
Marine Scotland
Mountaineering Council of Scotland
Mountaineering Scotland
NATS Safeguarding
RSPB Scotland
Scottish Rights of Way and Access Society (ScotWays)
Scottish Water
Scottish Wild Land Group (SWLG)
Scottish Wildlife Trust
Transport Scotland
VisitScotland